

P.W.

CONFIDENTIAL
2-24-76

LEASE NO. *Federal*
A-7995

LOCATION NE SE SEC 8 TWP 13N RANGE 18E FOOTAGE 1900 FSL 330 FEL

STATUS plugged TOTAL 3646
COMP. DATE 1-29-76 DEPTH 3644
2-9-76

CONTRACTOR

CASING SIZE	DEPTH	CEMENT	LINER SIZE & DEPTH	DRILLED BY ROTARY	X
13 3/8	143'	200 sx	NA	DRILLED BY CABLE TOOL	
8 5/8	665'	475 sx		PRODUCTIVE RESERVOIR	
4 1/2	3554	122 sx		INITIAL PRODUCTION	

FORMATION TOPS	DEPTHS	SOURCE		REMARKS
		L.L.	E.L.	
Coconino	Surface		x	
Supia	572'			
Ft. Apache	1310'			
Naco	2188'			
Redwall	3290'			
Martin	3318'			
Cambrian	3410'			
Pre-Cambrian	3595'			

ELECTRIC LOGS	PERFORATED INTERVALS	PROD. INTERVALS	SAMPLE LOG <u>Amstron</u>
Dual Induction Laterlog	3393-3403		SAMPLE DESCRP.
Compensated Neutron	1993-1994		SAMPLE NO. <u>P - 1749</u>
Formation Density	1886-86		CORE ANALYSIS
	1848-62		DSTs
	1835-42		
	1814-24		
REMARKS			APP. TO PLUG <u>X</u>
			PLUGGING REP. <u>X</u>
			COMP. REPORT <u>X</u>

WATER WELL ACCEPTED BY United States of America (Forest Service)

BOND CO. USF&G

BOND NO. Ariz 7995

BOND AMT. \$ 5,000

CANCELLED

DATE
ORGANIZATION REPORT 12-2-75

FILING RECEIPT 0511

LOC. PLAT **x**

WELL BOOK _____ x PLAT BOOK _____ x

APL NO. 02-017-20012

DATE ISSUED 12-10-75

DEDICATION

PERMIT NUMBER 654

Notified Mr. Webster, Prince
Pool - Medicine

(over)

CONFIDENTIAL

Release Date 2-24-76

WELL COMPLETION OR RECOMPLETION REPORT AND WELL LOG

DESIGNATE TYPE OF COMPLETION:

New Well ☒ Work-Over ☐ Deepen ☐ Plug Back ☐ Same Reservoir ☐ Different Reservoir ☐ Oil ☐ Gas ☐ Dry ☒

DESCRIPTION OF WELL AND LEASE

Operator Morton Brothers, Inc. Address 501 Airport Dr., Suite 105
c/o Minerals Management, Inc. Farmington, New Mexico 87401
 Federal, State or Indian Lease Number or name of lessor if fee lease A-7995 Well Number 1 Field & Reservoir Wildcat
 Location 1900' ESL, 330' FEL County Navajo
 Sec. TWP-Range or Block & Survey Section 8, T13N, R18E

Date spudded 12-29-75 Date total depth reached 1-14-76 Date completed, ready to produce - Elevation (DF, RKB, RT or Gr.) 6165 KB (feet) Elevation of casing hd. range 5153 feet
 Total depth 3644 P.B.T.D. 1484 Single, dual or triple completion? Single If this is a dual or triple completion, furnish separate report for each completion.
 Producing interval (a) for this completion 0'-3644' Rotary tools used (interval) - Cable tools used (interval) -

Was this well directionally drilled? NO Was directional survey made? NO Was copy of directional survey filed? - Date filed -
 Type of electrical or other logs run (check logs filed with the completion) Dual Induction Laterolog, Compensated Neutron, Density Formation - Date filed -

CASING RECORD

Casing (report all strings set in well—conductor, surface, intermediate, producing, etc.)

Purpose	Size hole drilled	Size casing set	Weight (lb./ft.)	Depth set	Sacks cement	Amt. pulled
Surface	17 1/2	13 3/8	48	143	200	
Intermed.	12 1/4	8 5/8	24	665	475	
Production	7 7/8	4 1/2	10.5 & 11.6	3554	122	

TUBING RECORD

LINER RECORD

Size	Depth set	Packer set at	Size	Top	Bottom	Sacks cement	Screen (ft.)
in.	ft.	ft.	in.	ft.	ft.		

PERFORATION RECORD

ACID, SHOT, FRACTURE, CEMENT SQUEEZE RECORD

Number per ft.	Size & type	Depth Interval	Amt. & kind of material used	Depth Interval
			25 sx Class "B"	3023-3430
			350 sx 50/50 Poz.	1993-1994-
			100 sx Class "B"	(to surface)

INITIAL PRODUCTION 35 sx Cl. "B" 1484-1945

Date of first production - Producing method (Indicate if flowing, gas lift or pumping—If pumping, show size & type of pump:) -

Date of test	Hrs. tested	Choke size	Oil prod. during test	Gas prod. during test	Water prod. during test	Oil gravity
			bbls.	MCF	bbls.	" API (Corr)

Tubing pressure	Casing pressure	Cal'd rate of Pro-duction per 24 hrs.	Oil	Gas	Water	Gas-oil ratio
			bbls.	MCF	bbls.	

Disposition of gas (state whether vented, used for fuel or sold):

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the.....Designated Agent.....of the
Morton Brothers, Inc......(company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

Date 2/9/76 Signature J. Arnold Smith
 Area Manager
 Minerals Management, Inc.

Form No. 654

Form No. 4

STATE OF ARIZONA
 OIL & GAS CONSERVATION COMMISSION
 Well Completion or Recompletion Report and Well Log
 File One Copy
 1376

O & G CONS. COMM.

DETAIL OF FORMATIONS PENETRATED			
Formation	Top	Bottom	Description*
	3393	3403	2-1 9/16 & 3 1/8 jet shots per ft.
	1993	1994	4-3 1/8 jet shots per ft.
	1866-86,	1848-62,	2-3 1/8 jet shots per ft.
	1835-42,	1814-24	

* Show all important zones of porosity, detail of all cores, and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries.

INSTRUCTIONS:

Attach driller's log or other acceptable log of well.

This Well Completion or Recompletion report and well log shall be filed with the State of Arizona Oil & Gas Conservation Commission not later than thirty days after project completion.

Form No. 4

PLUGGING RECORD					
Operator Morton Brothers, Inc. c/o Minerals Management, Inc.			Address 501 Airport Dr., Suite 105 Farmington, New Mexico 87401		
Federal, State, or Indian Lease Number, or lessor's name if fee lease.		Well No.	Field & Reservoir		
A-7995		1	Wildcat		
Location of Well			Sec-Twp-Rge or Block & Survey		County
1900' ESL, 330' FEL, SEC. 8, T13N, R18E					Navajo
Application to drill this well was filed in name of		Has this well ever produced oil or gas		Character of well at completion (initial production):	
Morton Brothers, Inc.		No		Oil (bbls/day) Gas (MCF/day) Dry? X	
Date plugged:		Total depth		Amount well producing when plugged:	
January 29, 1976		3644		Oil (bbls/day) Gas (MCF/day) Water (bbls/day)	
Name of each formation con- taining oil or gas. Indicate which formation open to well- bore at time of plugging		Fluid content of each formation		Depth interval of each formation	
NONE				Size, kind & depth of plugs used Indicate zones squeeze cemented, giving amount cement	
CASING RECORD					
Size pipe	Put in well (ft.)	Pulled out (ft.)	Left in well (ft.)	Give depth and method of parting casing (shot, ripped, etc.)	Packers and shoes
13 3/8	146	0	146	-	
8 5/8	652	0	652	-	
4 1/2	3542	0	3542	-	
Was well filled with mud-laden fluid, according to regulations?			Indicate deepest formation containing fresh water.		
YES					
NAMES AND ADDRESSES OF ADJACENT LEASE OPERATORS OR OWNERS OF THE SURFACE					
Name		Address		Direction from this well:	
UNKNOWN					
In addition to other information required on this form, if this well was plugged back for use as a fresh water well, give all pertinent details of plugging operations to base of fresh water sand, perforated interval to fresh water sand, name and address of surface owner, and attach letter from surface owner authorizing completion of this well as a water well and agreeing to assume full liability for any subsequent plugging which might be required.					
See attached well completion report. Well released to U.S. Forest Service.					
Use reverse side for additional detail.					
CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the <u>Designated Agent</u> of the					
<u>Morton Brothers, Inc.</u> (company) and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.					
Date <u>2/9/76</u>		Signature <u>[Signature]</u> Area Manager Minerals Management, Inc.			
Permit No. <u>654</u>			Form No. 10		
			STATE OF ARIZONA OIL & GAS CONSERVATION COMMISSION Plugging Record File One Copy		
			RECEIVED FEB 13 1976 O & G CONS. COMM.		

APPLICATION TO ABANDON AND PLUG

FIELD Wildcat Morton Brothers, Inc. 501 Airport Dr., Suite 105
 OPERATOR c/o Minerals Management, Inc. ADDRESS Farmington, New Mexico 87401
 Federal, State, or Indian Lease Number A-7995 WELL NO. 1
 or Lessor's Name if Fee Lease 1900' FSL, 330' FEL, SEC. 8, T13N, R18E

LOCATION 1900' FSL, 330' FEL, SEC. 8, T13N, R18E
 TYPE OF WELL Dry hole (Oil, Gas or Dry Hole) TOTAL DEPTH 3644'
 ALLOWABLE (If Assigned)
 LAST PRODUCTION TEST OIL (Bbls.) WATER (Bbls.)
 GAS (MCF) DATE OF TEST
 PRODUCING HORIZON PRODUCING FROM TO

1. COMPLETE CASING RECORD.

- 13 3/8" OD 48# set at 143' KB w/200 sx.
- 8 5/8" OD 24# set at 665' KB w/475 sx.
- 4 1/2" OD 10.5# & 11.6# set at 3554' w/122 sx and 450 sx squeeze.

2. FULL DETAILS OF PROPOSED PLAN OF WORK

1. Spot 35 sx plug 1945'-1432'.
2. Squeeze to 500 psi or 1661' into formation.
3. Pull and lay down tubing.
4. Remove wellhead. Place plates across all openings.
5. Clean location and release well to U.S. Forest Service.

Verbal approval recieved from D.F. Russell, U.S.G.S. Bakersfield, California and W.E. Allen, Oil & Gas Commission, Phoenix, Arizona 1-28-76 by W.E. Landry.

DATE COMMENCING OPERATIONS January 29, 1976

NAME OF PERSON DOING WORK

ADDRESS

Signature

J. Arnold Smith
Area Manager-Minerals Management, Inc.

Title

501 Airport Dr., Suite 105, Farmington, N.M. 87401

Address

Date

Date Approved 2-16-76

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION

By: W.E. Landry

Permit No. 654

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Application to Abandon and Plug
File Two Copies

Form No. 9

RECEIVED

FEB 13 1976

O & G CONS. COMM.

DEPARTMENT OF WATER RESOURCES
33 EAST VIRGINIA AVENUE
PHOENIX, ARIZONA 85004



REGISTRATION OF EXISTING WELLS

READ INSTRUCTIONS ON BACK OF THIS FORM BEFORE COMPLETING
PRINT OR TYPE - FILE IN DUPLICATE

REGISTRATION FEE (CHECK ONE)	
EXEMPT WELL (NO CHARGE)	<input checked="" type="checkbox"/>
NON-EXEMPT WELL - \$10.00	<input type="checkbox"/>

FOR OFFICE USE ONLY	
REGISTRATION NO. 33	642648
FILE NO.	A113-182800
FILED	6-3-82 AT 10
(DATE)	(TIME)
INA	
AMA	

1. Name of Registrant:
USDA - Forest Service - Apache-Sitgreaves National Forests
P.O. Box 640 Springerville Arizona 85938
(Address) (City) (State) (Zip)
2. File and/or Control Number under previous groundwater law:
N/A 35 N/A
(File Number) (Control Number)
3. a. The well is located within the SE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$, Section 8
of Township 13N N/S, Range 18E E/W, G & SRB & M, in the
County of Navajo
b. If in a subdivision: Name of subdivision _____
Lot No. _____, Address _____
4. The principal use(s) of water (Examples: irrigation - stockwater - domestic - municipal - industrial)
Stockwater and wildlife water.
5. If for irrigation use, number of acres irrigated from well _____
6. Owner of land on which well is located. If same as Item 1, check this box ☒

(Address) (City) (State) (Zip)
7. Well data (If data not available, write N/A)
 - a. Depth of Well 3634 feet
 - b. Diameter of casing N/A inches - 4" AT GROUND LEVEL
 - c. Depth of casing 662 feet
 - d. Type of casing Steel
 - e. Maximum pump capacity N/A gallons per minute.
 - f. Depth to water N/A feet below land surface.
 - g. Date well completed January 16 1976
(Month) (Day) (Year)
8. The place(s) of use of water. If same as Item 3, check this box ☒
 $\frac{1}{4}$ $\frac{1}{4}$ $\frac{1}{4}$, Section _____ Township _____ Range _____
 $\frac{1}{4}$ $\frac{1}{4}$ $\frac{1}{4}$, Section _____ Township _____ Range _____
Attach additional sheet if necessary.
9. DATE 5-28-82 SIGNATURE OF REGISTRANT Douglas H. Smith

RELEASE OF WATER WELL

WHEREAS, that certain Oil and Gas Lease was made and entered into on February 1, 1976, by and between the United States of America, Lessor, and Morton Brothers Inc., Lessee, bearing serial number A-7995; and

WHEREAS Morton Brothers Inc., whose address is 254 North Center Street Casper, Wyoming 82601 is the present Lessee of record; and

WHEREAS, said Lease provides that there is reserved by the Lessor all rights pursuant to Section 40 of the Mineral Leasing Act of February 25, 1920, (41 Stat. 437, as amended) to acquire casing and lease or operate valuable water wells located on said Lease and lands; and

WHEREAS Morton Brothers Inc., as operator has drilled and completed a certain well located 1900 feet from the ~~North~~ South line and 330 feet from the ~~West~~ East line of Section 8 in Township 13N, Range 18E, said well being located in NE SE of the said Section 8, a portion of the above lease, which well appears to contain water of such quality and quantity to be valuable and usable at a reasonable cost for agriculture, domestic, or other purposes; and

WHEREAS, the Morton Brothers Inc., as Lessee and the Morton Brothers Inc. as operator desire to release, relinquish, and quitclaim all right, title and interest in and to said well to the United States of America in lieu of plugging same to surface; and

WHEREAS, the United States of America, acting by and through the Secretary of the Interior desires, pursuant to said Lease and said Mineral Leasing Act of February 20, 1920, as amended, to take over said well with the express understanding and agreement that the taking over of such well will not restrict operations of said lease.

NOW, THEREFORE, for and in consideration of the premises, the undersigned has released, relinquished, and quitclaimed, and does hereby release, relinquish, and quitclaim unto the United States of America, acting by and through the Secretary of the Interior, all right, title and interest in and to said above described well, reserving only the right to operate said well for the production of water therefrom for other operations under this lease during the term thereof.

This instrument, regardless of the date of execution thereof, shall be effective as of January 29, 1976.

IN WITNESS WHEREOF, the undersigned has executed this Release on this 5th day of February, 1976.

MORTON BROTHERS, INC.

By: Warren A. Morton

Warren A. Morton - President

RECEIVED

FEB 13 1976

O & G CONS. COMM.



MINERALS MANAGEMENT INCORPORATED
A Division of SCIENTIFIC SOFTWARE CORPORATION

February 6, 1976

Mr. Merrill Richards
District Ranger
U. S. Forest Service
Sitgreaves National Forest
Pinedale Ranger District
P. O. Box 778
Snowflake, Arizona 85937

Dear Sir:

Attached is a suggested form memorandum for the formal assumption of control of the Morton Brothers Inc., Federal 8 Well No. 1, which was turned over to the Forest Service, through you on January 30, 1976.

This is a modification of the suggested letter form which I furnished you and it contains the specific data on the lease and well location, as we discussed.

We would appreciate your preparation and execution of such a document, with submittal to the U.S.G.S. through this office, and the similar submittal of Arizona Oil and Gas Conservation Commission Water Well Acceptance form. We have already sent a completed "Release of Water Well" to Warren Morton for his signature, and will send you a copy of the same for your records.

Thank you,


W. E. Landry

WEL/jh

Enclosure

RECEIVED
FEB 23 1976
O & G CONS. COMM.

TO: Oil and Gas Conservation Commission
State of Arizona

This is to advise you that I accept the abandoned wildcat well, known as the
Morton Brothers, Inc., Federal 8, Well No. 1 located on the NE-SE $\frac{1}{4}$ - $\frac{1}{4}$
of Section 8 Township 13N Range 18E, County of Navajo
Arizona, as a water well to be used for domestic purposes.

Further, I accept full responsibility for the proper maintenance and use of
the above well, including final plugging, in full compliance with the Rules
and Regulations adopted by the Oil and Gas Conservation Commission.

I understand that I am responsible for compliance with the provisions of the
State Water Code, Chapter 1, Title 45, Arizona Revised Statutes and with any
applicable requirements of U.S. Geological Survey.

Signature _____

Address _____

State of _____
County of _____

On this, the _____ day of _____, 19____, before me, _____

_____, the undersigned officer, personally appeared
_____, known to me (or satisfactorily proven)
to be the person whose name is subscribed to the within instrument and ack-
nowledged that _____ executed the same for the
purpose therein contained.

In witness whereof I hereunto set my hand and official seal.

Notary Public _____

My Commission expires _____

State of Arizona
OIL & GAS CONSERVATION COMMISSION
WATER WELL ACCEPTANCE
Form 26 - File one copy

Permit No. 654

Suggested Form of Water Well Control Assumption

MEMORANDUM

TO: Donald F. Russel, District Engineer
U. S. Geological Survey
309 Federal Building
800 Truxtun Avenue
Bakersfield, California 93301

FROM: (Appropriate title) U. S. Forest Service

SUBJECT: Water Well - Oil and Gas Lease A-7995

Morton Brothers Inc. has drilled a well in the NE 1/4-SE 1/4, Section 8, T13N, R18E, G & SR.

This well was drilled on land included in oil and gas lease A-7995 which was issued on February 1, 1975.

The above described land where this well is located, is public land under the administration of the United States Forest Service, Sitgreaves National Forest. Water for livestock use is badly needed by permittees of the Forest Service, who are authorized to graze livestock on the surrounding public land. We have requested that this well be left unplugged so that we may perforate, equip and use it.

Authority for the United States Government, acting by and through the Secretary of the Interior, to assume control of such a well is provided by Section 40 of the Mineral Leasing Act of February 25, 1920, as amended.

In accepting this well, the U. S. Forest Service assumes all future responsibility and relieves the U. G. Geological Survey and the operator of any future liability in connection therewith.

Form 9-310
(Rev. 5-63)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE

(See instructions on reverse side)

Form approved.
Budget Bureau No. 42-R355.5.

WELL COMPLETION OR RECOMPLETION REPORT AND LOG *

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☐ DRY ☒ Other _____
b. TYPE OF COMPLETION: NEW WELL ☐ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. RESVR. ☐ Other released for water well

2. NAME OF OPERATOR

Morton Brothers Inc.

3. ADDRESS OF OPERATOR c/o Minerals Management Inc.

501 Airport Dr., Suite 105, Farmington, New Mexico 87401

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)*

At surface 1900' FSL, 330' FEL, SEC. 8, T13N, R18E

At top prod. interval reported below

At total depth

14. PERMIT NO.

DATE ISSUED

5. LEASE DESIGNATION AND SERIAL NO.

A-7995

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Federal 8

9. WELL NO.

1

10. FIELD AND POOL, OR WILDCAT

Wildcat

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA

Sec. 8, T13N, R18E

12. COUNTY OR PARISH

Navajo

13. STATE

Arizona

15. DATE SPUDDED

12-29-75

16. DATE T.D. REACHED

1-14-76

17. DATE COMPL. (Ready to prod.)

1-29-76 (P & A)

18. ELEVATIONS (DF, RES, ET, GR, ETC.)*

6165 KB

19. ELEV. CASINGHEAD

6153

20. TOTAL DEPTH, MD & TVD

3644

21. PLUG, BACK T.D., MD & TVD

1484

22. IF MULTIPLE COMPL., HOW MANY*

1

23. INTERVALS DRILLED BY

ROTARY TOOLS

Yes

CABLE TOOLS

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*

None

25. WAS DIRECTIONAL SURVEY MADE

No

26. TYPE ELECTRIC AND OTHER LOGS RUN

Dual Laterolog, Compensated Neutron, Formation Density

27. WAS WELL CORED

No

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
13 3/8	48	143	17 1/2	200 SX	—
8 5/8	24	665	12 1/4	475 SX	—
4 1/2	10.5 & 11.6	3554	7 7/8	122 SX	—

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)

30. TUBING RECORD

31. PERFORATION RECORD (Interval, size and number)

3393-3403; 1 9/16-20
3393-3403; 3 1/8-20
1993-1994; 3 1/8-4
1866-86, 1848-62, 1835-42,
1814-24; 3 1/8-102

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
3023-3230 25 SX	ClB w/12.5#/sx 8.66#/sx salt
1993-1994 350 SX	50/50 Poz, 100 sx Cl B,
	(to surface)
1484-1945 35 SX	Class B

33. PRODUCTION

DATE FIRST PRODUCTION PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) WELL STATUS (Producing or shut-in)

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO

FLOW, TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.) TEST WITNESSED BY

35. LIST OF ATTACHMENTS

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED J. Arnold Snell TITLE Area Manager DATE 2-12-76
Minerals Management Inc.

*(See Instructions and Spaces for Additional Data on Reverse Side)

INSTRUCTIONS

General: This form is designed for submitting a complete and correct well completion report and log on all types of lands and leases to either a Federal agency or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office. See instructions on items 22 and 24, and 33, below regarding separate reports for separate completions. (drillers, geologists, sample and core analysis, all types electric, etc.), formations and/or State office. If not filed prior to the time this summary record is submitted, copies of all currently available logs (drillers, geologists, sample and core analysis, all types electric, etc.), formations and pressure tests, and directional surveys, should be attached hereto, to the extent required by applicable Federal and/or State laws and regulations. All attachments should be listed on this form, see item 33.

Item 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

Item 18: Indicate which elevation is used as reference (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments.

Items 22 and 24: If this well is completed for separate production from more than one interval zone (multiple completion), so state in item 22, and in item 24 show the producing interval, or intervals, top(s), bottom(s) and name(s) (if any) for only the interval reported in item 33. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

Item 29: "Seals Cement": Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.

Item 33: Submit a separate completion report on this form for each interval to be separately produced. (See instruction for items 22 and 24 above.)

37. SUMMARY OF POROUS ZONES: SHOW THE IMPORTANT ZONES OF POROSITY AND CONTENTS THEREOF; CORED INTERVALS; AND ALL DRILL-STEM TESTS, INCLUDING DEPTH INTERVAL TESTED, CUSHION USED, TIME TOOL OPEN, FLOWING AND SHUT-IN PRESSURES, AND RECOVERIES		38. GEOLOGIC MARKERS	
FORMATION	TOP	NAME	MEAS. DEPTH
		Coconino	Surface
		Supia	572'
		Ft. Apache	1310'
		Naco	2188'
		Redwall	3290'
		Martin	3318'
		Cambrian	3410'
		Pre-Cambrian	3595'

Form 3-311
(May 1963)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIP DATE
(Other instructions on reverse side)

Form approved
Budget Bureau No. 42-R1424

5. LEASE DESIGNATION AND SERIAL NO.

A-7995

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Federal 8

9. WELL NO.

1

10. FIELD AND POOL, OR WILDCAT

Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA

SEC. 8, T13N, R18E G&SR

12. COUNTY OR PARISH

Navajo

Arizona

1. OIL WELL ☐ GAS WELL ☐ OTHER ☒ Dry and Abandoned

2. NAME OF OPERATOR

Morton Brothers Inc.

3. ADDRESS OF OPERATOR c/o Minerals Management Inc.

501 Airport Drive, Suite 105, Farmington, New Mexico 87401

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.)
At surface

14. PERMIT NO. 330' FEL, 1900' FSL, SEC. 8, T13N, R18E

15. ELEVATIONS (Show whether DF, RT, GR, etc.)

6165 KB, 6153 GL

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOT OR ACIDIZE

REPAIR WELL

(Other)

PULL OR ALTER CASING

MULTIPLE COMPLETE

ABANDON*

CHANGE PLANS

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other)

REPAIRING WELL

ALTERING CASING

ABANDONMENT*

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Operator abandoned well as follows:

1. Flushed well bore with fresh water.
2. Spotted 35 sx cement plug 1945' to 1484' and squeezed annulus with 500 psi displacing 1/2 Bbl. into formation.
3. Remove wellhead.
4. Placed caps on 13 3/8"-8 5/8" and 8 5/8"-4 1/2" annuli and perforated and tacked screw cap on 4 1/2" casing.
5. Released well to U.S. Forest Service for development as water well.

RECEIVED
JAN 24 1977
O & G CONS. COMM.

CONFIDENTIAL

18. I hereby certify that the foregoing is true and correct

SIGNED

J. Arnold Smith

TITLE

Area Manager

Minerals Management Inc.

DATE

2-3-76

(This space for Federal or State office use)

APPROVED BY

CONDITIONS OF APPROVAL, IF ANY:

D. F. Russell

District Engineer

cc: Arizona Oil & Gas Conser. Commission, Phoenix, Arizona

U.S. Forest Service, Snowflake, Arizona

*See Instructions on Reverse Side

654

DATE JAN 24 1977

GEOLOGICAL SURVEY

RECEIVED

FEB 06 1976

BAKERSFIELD

Form 9-731
(May 1963)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPLICATE
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.

A-7995

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Federal

9. WELL NO.

8-1

10. FIELD AND POOL, OR WILDCAT

Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA

Sec. 8, T13N, R18E

12. COUNTY OR PARISH

Navajo

13. STATE

Arizona

SUNDRY NOTICES AND REPORTS ON WELLS
(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL ☒ GAS WELL ☐ OTHER ☐

2. NAME OF OPERATOR

Morton Brothers

3. ADDRESS OF OPERATOR c/o Minerals Management Inc.

501 Airport Drive, Suite 105, Farmington, New Mexico 87401

4. LOCATION OF WELL. (Report location clearly and in accordance with any State requirements.
See also space 17 below.)
At surface

330' FEL, 1900' ESL, SEC. 8, T13N, R18E

14. PERMIT NO.

15. ELEVATIONS (Show whether DF, RT, GR, etc.)

6153 GR

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

(Other)

FULL OR ALTER CASING

MULTIPLE COMPLETE

ABANDON*

CHANGE PLANS

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other) Plug Back

REPAIRING WELL

ALTERING CASING

ABANDONMENT*

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

Operator Plugged Well Back As Follows:

- (1) Spot 25 sx cement plug 3430' to 3023'. Squeeze annulus to 500 psig. Displace 1/2 Bbl. in to formation.
- (2) Set wireline bridge plug at 1999' KB.
- (3) Perforate 1993-94 with jet shots. Establish injection rate-3 BPM at 300 psi.
- (4) Set cement retainer at 1949'. Cement with 350 sx 50-50 Pozmix, 100 sx Class "B" Neat. All cement contains 12 1/2# Gilsonite and 8.6 lbs. salt per sx. Circulate 25 sx cement.

CONFIDENTIAL

RECEIVED

FEB 3 1976

O & G CONS. COMM.

18. I hereby certify that the foregoing is true and correct

SIGNED

J. Arnold

TITLE

Area Manager
Minerals Management Inc.

DATE 1-30-76

(This space for Federal or State office use)

APPROVED BY

CONDITIONS OF APPROVAL, IF ANY:

TITLE

DATE

Form 9-931
(May 1963)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPLICATE*
(Other instructions on re-
verse side)

Form approved.
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.

A-7995

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Federal

9. WELL NO.

8-1

10. FIELD AND POOL, OR WILDCAT

Wildcat

11. SEC., T., R., M., OR BLK. AND
SURVEY OR AREA

Sec. 8, T13N, R18E

12. COUNTY OR PARISH 13. STATE

Navajo

Arizona

1. OIL ☒ WELL GAS ☐ WELL OTHER ☐

2. NAME OF OPERATOR

Morton Brothers Inc.

3. ADDRESS OF OPERATOR c/o Minerals Management Inc.

501 Airport Dr., Suite 105, Farmington, New Mexico 87401

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.
See also space 17 below.)
At surface

330' FEL, 1900' FSL, SEC. 8, T13N, R18E

14. PERMIT NO.

15. ELEVATIONS (Show whether DF, RT, GR, etc.)

6153 GR

16.

Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

(Other)

PULL OR ALTER CASING

MULTIPLE COMPLETE

ABANDON*

CHANGE PLANS

X

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other)

REPAIRING WELL

ALTERING CASING

ABANDONMENT*

(NOTE: Report results of multiple completion on Well
Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any
proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones perti-
nent to this work.)

Operator proposes to abandon well as follows:

1. Spot 35 sx cement plug 1945'-1432' (513')
2. Squeeze to 500 psig or 1 Bbl. in perforations
3. Pull & lay down tubing
4. Remove well head, place plate across top with opening in top
5. Clean location, release well to U.S. Forrest Service verbal approval to
W. E. Landry, MMI, from D. F. Russell U.S.G.S., Bakersfield, California, and
W. E. Allen, Oil & Gas Commission, Phoenix, Arizona 1-28-76

CONFIDENTIAL

RECEIVED

FEB 3 1976

O & G CONS. COMM.

18. I hereby certify that the foregoing is true and correct

SIGNED

J. Arnold Smith

Area Manager

TITLE Minerals Management Inc.

DATE 1-29-76

(This space for Federal or State office use)

APPROVED BY

CONDITIONS OF APPROVAL, IF ANY:

TITLE

DATE

Form 9-331
(May 1963)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPlicate*
(Other instructions on re-
verse side)

Form approved.
Budget Bureau No. 42-R1424.

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL ☒ WELL GAS ☐ WELL OTHER ☐

2. NAME OF OPERATOR

Morton Brothers, Inc.

3. ADDRESS OF OPERATOR

c/o Minerals Management, Inc.

501 Airport Dr., Suite 105, Farmington, N.M. 87401

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.
See also space 17 below.)
At surface

330' FEL, 1900' FSL, SECTION 8, T13N, R18E

14. PERMIT NO.

15. ELEVATIONS (Show whether DF, RT, GP, etc.)

6153 GR

5. LEASE DESIGNATION AND SERIAL NO.

A-7995

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Federal

9. WELL NO.

8-1

10. FIELD AND POOL, OR WILDCAT

Wildcat

11. SEC., T., R., M., OR BLM. AND SURVEY OR AREA

SEC. 8, T13N, R18E

12. COUNTY OR PARISH 13. STATE

Navajo

Arizona

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

(Other) Plug Back

PULL OR ALTER CASING

MULTIPLE COMPLETE

ABANDON*

CHANGE PLANS

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other)

REPAIRING WELL

ALTERING CASING

ABANDONMENT*

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.) *

Operator proposes to plug back as follows:

1. Set 25 sack cement plug 3424'-3072'. Squeeze into perforations.
2. Set wireline bridge plug at 2000'.
3. Perforate 1995'-1996' with 4 holes.
4. Set cement retainer at 1950'.
5. Establish circulation or injectivity.
6. Cement with approximately 470 sacks cement.
7. Run temperature survey if necessary.
8. Wait on cement 12 hours.
9. Perforate zones 1800'-1900' and test.

Verbal approval from W.E. Allen with Arizona Oil & Gas Commission, Phoenix, Arizona, and Don Russell, U.S.G.S., Bakersfield, California, to Bill Landry on January 25, 1976.

CONFIDENTIAL

RECEIVED

FEB 2 1976

O & G CONS. COMM.

18. I hereby certify that the foregoing is true and correct.

SIGNED

J. Arnold Hill

Area Manager

TITLE Minerals Management, Inc DATE January 26, 1976

(This space for Federal or State office use)

APPROVED BY

654

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

Form 9-331
(May 1963)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPlicate
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.

A7995

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Federal

9. WELL NO.

8-1

10. FIELD AND POOL, OR WILDCAT

Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA

SEC. 8 T13N R18E

12. COUNTY OR PARISH 13. STATE

Navajo

Arizona

14. PERMIT NO.

15. ELEVATIONS (Show whether DF, RT, CR, etc.)

6153 GR

16.

Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

(Other)

PULL OR ALTER CASING

MULTIPLE COMPLETE

ABANDON*

CHANGE PLANS

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other) Weekly Report

REPAIRING WELL

ALTERING CASING

ABANDONMENT*

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

1-20-76 Move in completion unit.

1-21-76 Move in completion unit.

1-22-76 Rig up completion unit. Pick up 2 3/8" tubing.

1-23-76 Perforate 4 1/2" casing 3393-3403 w/2 SPF. Swab tubing.

CONFIDENTIAL

18. I hereby certify that the foregoing is true and correct.

SIGNED

Area Manager

TITLE Minerals Management Inc DATE 1-23-76

(This space for Federal or State office use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

Form 9-331
(May 1963)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.

A 7995

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Federal

9. WELL NO.

8-1

10. FIELD AND POOL, OR WILDCAT

Wildcat

11. SEC., T., R., M., OR B.L. AND SURVEY OR AREA

Sec. 8, T13N, R18E

12. COUNTY OR PARISH 13. STATE

Navajo Arizona

1. OIL WELL ☐ GAS WELL ☒ OTHER

2. NAME OF OPERATOR

Morton Brothers Inc.

3. ADDRESS OF OPERATOR c/o Minerals Management Inc.

501 Airport Dr., Suite 105, Farmington, New Mex. 87401

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.)
At surface

14. PERMIT NO. 15. ELEVATIONS (Show whether DF, RT, GR, etc.)

6153 GR 6165 RT

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

(Other)

PULL OR ALTER CASING

MULTIPLE COMPLETE

ABANDON*

CHANGE PLANS

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other) Production Casing

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

REPAIRING WELL

ALTERING CASING

ABANDONMENT*

X

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Ran 18 Jts. (559') 4 1/2" 11.60# N-80, LT&C, 90 Joints (2983') 4 1/2" 10.50# K-55 ST&C. Total length of casing 3542'. Casing set at 3554' KB measurement. Cement with 122 sx Class "B" cement with 12 1/2# per sx Gilsonite, and 8.6# per sx salt. Plug down 9:50 P.M. 1-15-76 Good circulation throughout job.

CONFIDENTIAL

18. I hereby certify that the foregoing is true and correct.

SIGNED

(This space for Federal or State office use)

Area Manager

TITLE Minerals Management Inc DATE 1-19-76

APPROVED BY

CONDITIONS OF APPROVAL, IF ANY:

TITLE

DATE

Form 3-331
(May 1963)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPlicate*
(Other instructions on re-
verse side)

Form approved.
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.

A-7995

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Federal

9. WELL NO.

8-1

10. FIELD AND POOL, OR WILDCAT

Wildcat

11. SEC., T., R., M., OR BLS. AND
SURVEY OR AREA

SEC. 8, T13N, R18E

12. COUNTY OR PARISH 13. STATE

Navajo

Arizona

SUNDY NOTICES AND REPORTS ON WELLS
(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT" for such proposals.)

1. OIL WELL ☒ GAS WELL ☐ OTHER ☐

2. NAME OF OPERATOR

Morton Brothers, Inc.

3. ADDRESS OF OPERATOR c/o Minerals Management Inc.

501 Airport Dr., Suite 105, Farmington, N.M. 87401

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.
See also space 17 below.)
At surface

330' FEL, 1900' FSL, SEC. 8, T13N, R18E

14. PERMIT NO.

15. ELEVATIONS (Show whether DF, KT, CA, etc.)

6165 RT

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

(Other)

PULL OR ALTER CASING

MULTIPLE COMPLETE

ABANDON*

CHANGE PLANS

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other) Weekly Report

(Note: Report results of multiple completion on Well
Completion or Recompletion Report and Log form.)

REPAIRING WELL

ALTERING CASING

ABANDONMENT*

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

1-10-76 Drilling 2862'

1-11-76 Drilling 3082', deviation 1 1/2° @ 2890'

1-12-76 Drilling 3293', deviation 3/4° @ 3178'

1-13-76 Drilling 3480'

1-14-76 Drilling 3644', trip for logs

1-15-76 Drilling 3644', logging, condition hole for and run production casing.

1-16-76 Drilling 3644', rigging down rotary tools

CONFIDENTIAL

18. I hereby certify that the foregoing is true and correct

SIGNED

J. Arnold

Area Manager

TITLE Minerals Management Inc. DATE January 19, 1976

(This space for Federal or State office use)

APPROVED BY

CONDITIONS OF APPROVAL, IF ANY:

TITLE

DATE

Form 9-331
(May 1963)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPLICATE
(Other instructions
verse side)

Form approved.
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.

A-7995

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Federal

9. WELL NO.

8-1

10. FIELD AND POOL, OR WILDCAT

Wildcat

11. SEC., T., R., M., OR BLK. AND
SURVEY OR AREA

SEC. 8, T13N, R18E

12. COUNTY OR PARISH 13. STATE

Navajo

Arizona

14. PERMIT NO.

15. ELEVATIONS (Show whether DF, RT, GR, etc.)

6153 GR

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

(Other)

PULL OR ALTER CASING

MULTIPLE COMPLETE

ABANDON*

CHANGE PLANS

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other)

REPAIRING WELL

ALTERING CASING

ABANDONMENT*

Weekly report of operations
(Note: Report results of multiple completion on Well
Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

1-3-76 Depth 1142' mix mud. Deviation 2 1/4° at 913'.

1-4-76 Depth 1183' drilling. Deviation 3° at 1156'.

1-5-76 Depth 1438' drilling.

1-6-76 Depth 1533' drilling. Deviation 2° at 1450', 2° at 1501'.

1-7-76 Depth 2046' drilling. Deviation 1 3/4° at 2000'.

1-8-76 Depth 2365' drilling.

1-9-76 Depth 2547' drilling. Deviation 1/2° at 2436'.

RECEIVED

JAN 15

D & G CONS. COMM.

18. I hereby certify that the foregoing is true and correct

SIGNED

Area Manager

TITLE Minerals Management Inc.

DATE January 9, 1976

(This space for Federal or State office use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

Form 9-331
(May 1963)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPLICATE*
(Other instructions
verse side)

Form approved.
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.

A-7995

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Federal

9. WELL NO.

8-1

10. FIELD AND POOL, OR WILDCAT

Wildcat

11. SEC., T., R., M., OR BLK. AND
SURVEY OR AREA

Sec. 8, T13N, R18E

12. COUNTY OR PARISH 13. STATE

Navajo

Arizona

SUNDY NOTICES AND REPORTS ON WELLS
(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT-" for such proposals.)

1. OIL WELL ☒ GAS WELL ☐ OTHER ☐

2. NAME OF OPERATOR

Morton Brothers

3. ADDRESS OF OPERATOR c/o Minerals Management Inc.

501 Airport Dr., Suite 105, Farmington, New Mex. 87401

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*
See also space 17 below.)
At surface

14. PERMIT NO. 15. ELEVATIONS (Show whether DF, RT, GS, etc.)

6165 RT

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

(Other)

PULL OR ALTER CASING

MULTIPLE COMPLETE

ABANDON*

CHANGE PLANS

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other) Run Surface Casing

(NOTE: Report results of multiple completion on Well
Completion or Recompletion Report and Log form.)

REPAIRING WELL

ALTERING CASING

ABANDONMENT*

X

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

1-1-76

Ran 16 Joints 652' 8 5/8 OD 24# K-55 ST&C Casing.
Casing set at 665' KB. Cement with 475 sx Class
"B" Cement with 2% CaCl & 1/4# Flocele per sx. Plug
down 12:30 A.M. 1-1-76. Cement Circulated to Surface.

1-2-76

(Weekly Report 6:00 A.M.) Depth 729' - Drilling 7 7/8 hole.

18. I hereby certify that the foregoing is true and correct

SIGNED

J. Arnold

Area Manager

TITLE Minerals Management Inc DATE 1-2-76

(This space for Federal or State office use)

APPROVED BY

CONDITIONS OF APPROVAL, IF ANY:

TITLE

DATE

*See Instructions on Reverse Side

Form 9-331
(May 1993)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPLICATE*
(Other instructions on re-
verse side)

Form approved.
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.

A-7995

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Federal

9. WELL NO.

8-1

10. FIELD AND POOL, OR WILDCAT

Wildcat

11. SEC., T., R., M., OR BLK. AND
SURVEY OR AREA

Sec. 8, T13N, R18E

12. COUNTY OR PARISH 13. STATE

Navajo

Arizona

SUNDY NOTICES AND REPORTS ON WELLS
(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
(Use "APPLICATION FOR PERMIT-" for such proposals.)

1. OIL WELL ☒ GAS WELL ☐ OTHER ☐

2. NAME OF OPERATOR

Morton Brothers Inc.

3. ADDRESS OF OPERATOR c/o Minerals Management Inc.

501 Airport Dr., Suite 105, Farmington, New Mex. 87401

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*
See also space 17 below.)
At surface

330' FEL, 1900' FSL, SEC. 8, T13N, R18E

14. PERMIT NO.

15. ELEVATIONS (Show whether DF, RT, CE, etc.)

6165 RT

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

(Other)

PULL OR ALTER CASING

MULTIPLE COMPLETE

ABANDON*

CHANGE PLANS

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other) Spud

REPAIRING WELL

ALTERING CASING

ABANDONMENT*

(NOTE: Report results of multiple completion on Well
Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any
proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones perti-
nent to this work.)*

12-29-75

Spud 17 1/2" hole. 8:00 P.M. December 29, 1975.
Ran 3 Jts. 126' 13 3/8" OD 48# H-40 ST&C. Casing
set at 143' KB. Cement with 200 sx Class "B" cement
with 2% CaCl & 1/4# Flocele per sx. Plug down at
1:45 P.M. December 30, 1975.

RECEIVED

JAN 5 1975

O & G CONS. COMM.

NOTE: THIS IS A TIGHT HOLE

18. I hereby certify that the foregoing is true and correct

SIGNED

J. Arnold Inell

TITLE

Area Manager

Minerals Management Inc.

DATE 12-31-75

(This space for Federal or State office use)

APPROVED BY

654

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

Your proposal is approved subject to the following requirements:

1. Compliance with Federal Oil and Gas Operating Regulations.
2. Any change in the approved program must receive prior approval of District Engineer.
3. A Subsequent Report of work performed shall be filed in triplicate promptly upon completion of the work.

Form 9-331 C
(May 1963)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPLICATE
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1425.

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK			
1a. TYPE OF WORK DRILL <input checked="" type="checkbox"/> DEEPEN <input type="checkbox"/> PLUG BACK <input type="checkbox"/>			
b. TYPE OF WELL OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/> SINGLE ZONE <input checked="" type="checkbox"/> MULTIPLE ZONE <input type="checkbox"/>			
2. NAME OF OPERATOR MORTON BROTHERS, INC. c/o Minerals Management Inc.			
3. ADDRESS OF OPERATOR 501 Airport Dr. Farmington, New Mexico 87401			
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.) At surface 330 FEL, 1900 FSL, SECTION 8 T13N R18E At proposed prod. zone			
5. LEASE DESIGNATION AND SERIAL NO. A-7995			
6. IF INDIAN, ALLOTTEE OR TRIBE NAME			
7. UNIT AGREEMENT NAME			
8. FARM OR LEASE NAME Federal			
9. WELL NO. 8-1			
10. FIELD AND POOL, OR WILDCAT Wildcat			
11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Sec. 8 T13N R18E			
12. COUNTY OR PARISH		13. STATE	
Navajo		Arizona	
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE* 12 Miles Northeast of Heber, Arizona			
15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)		16. NO. OF ACRES IN LEASE	
330		2418.88	
17. DISTANCE FROM PROPOSED* LOCATION TO NEAREST WELL, DRILLING COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.		18. PROPOSED DEPTH	
-		4000'	
19. ELEVATIONS (Show whether DF, RT, GR, etc.)		20. ROTARY OR CABLE TOOLS	
6153 GR		Rotary	
21. APPROX. DATE WORK WILL START*		22. APPROX. DATE WORK WILL START*	
April 15, 1975		April 15, 1975	
23. PROPOSED CASING AND CEMENTING PROGRAM			
SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH
17 1/2	13 3/8	54.5	100'
12 1/4	8 5/8	24	1000'
7 7/8	5 1/2	14-15.5	4000'
QUANTITY OF CEMENT			
100sx			
500sx			
500sx			

Minerals Management, Inc. acting as agent for Morton Brothers, Inc. 254 North Center Street, Casper, Wyoming propose to drill well to Pre-Cambrian formation at a depth of approximately 4000'. Completion interval (if attempted) will be selected from open hole logs. Location Plat, Development Plan, Topo Map, Location Sketch and Blowout Preventer Program are attached.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24. SIGNED <u>J. Arnold Shiff</u> TITLE <u>Area Manager</u> DATE <u>3-14-75</u>	
(This space for Federal or State office use)	
PERMIT NO. <u>654</u>	APPROVAL DATE
APPROVED BY	TITLE
CONDITIONS OF APPROVAL, IF ANY:	

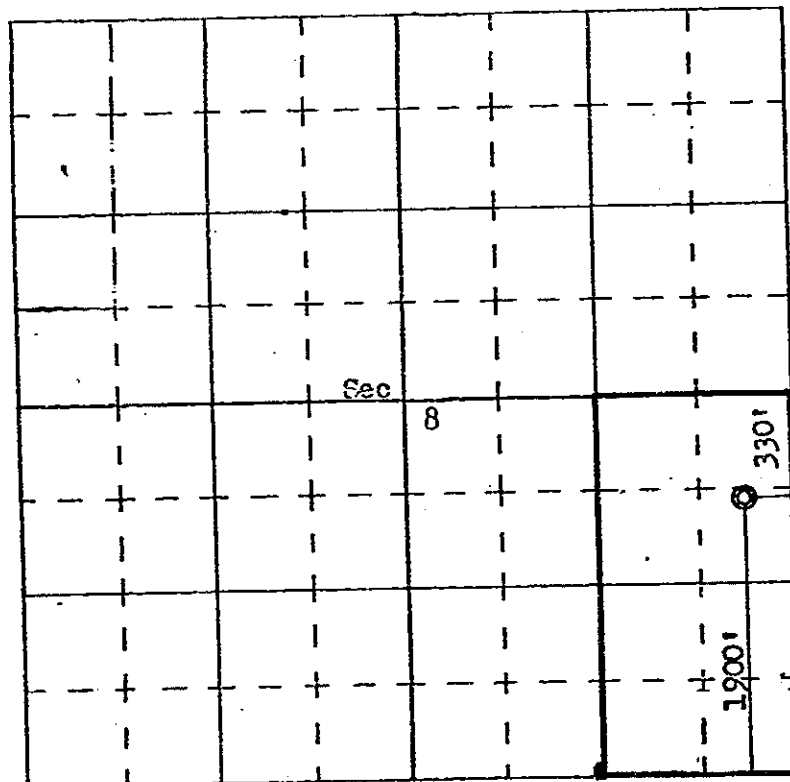
*See Instructions On Reverse Side

RECEIVED

MAR 18 1975

O & G COMM. COMM.

COMPANY MORTON BROTHERS, INC.
LEASE FEDERAL WELL NO. 8-1
SEC. 8 T. 13N R. 18E CSRM
Navajo County, Arizona
LOCATION 1900' FSL 330' FEL
ELEVATION 6153 ungraded Ground



SCALE—4 INCHES EQUALS 1 MILE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM
FIELD NOTE OF ACTUAL SURVEYS MADE BY ME UNDER MY SUPER-
VISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE
BEST OF MY KNOWLEDGE AND BELIEF.

Fred B. Kerr Jr.
Fred B. Kerr Jr.

SEAL:

Registered Land Surveyor,

#3950

Laughlin-Simmons & Co.

SURVEYED

March 13

1975

FARMINGTON, N. M.

RECEIVED

1975

O & S CIVIL ENGINEERS

654

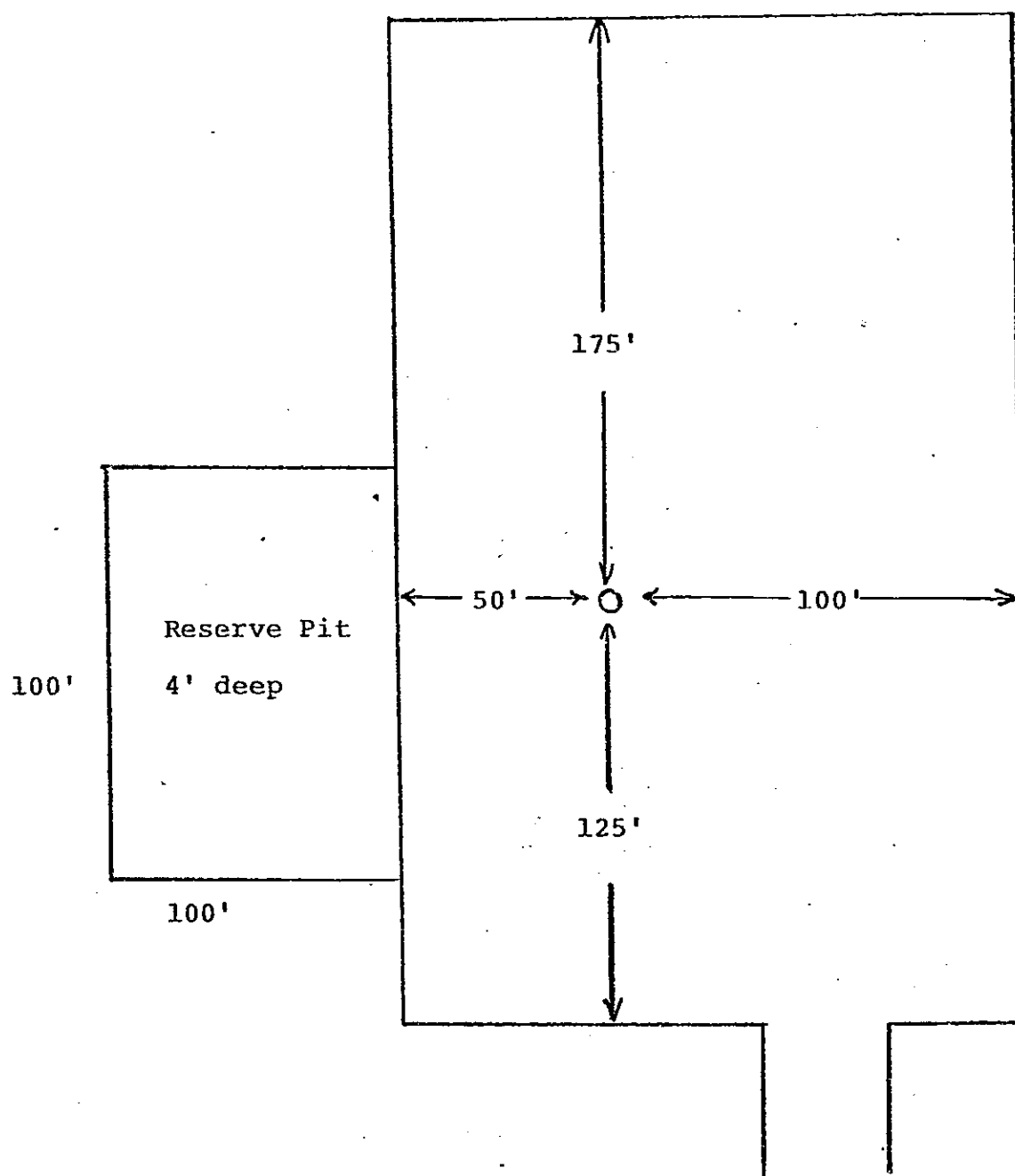


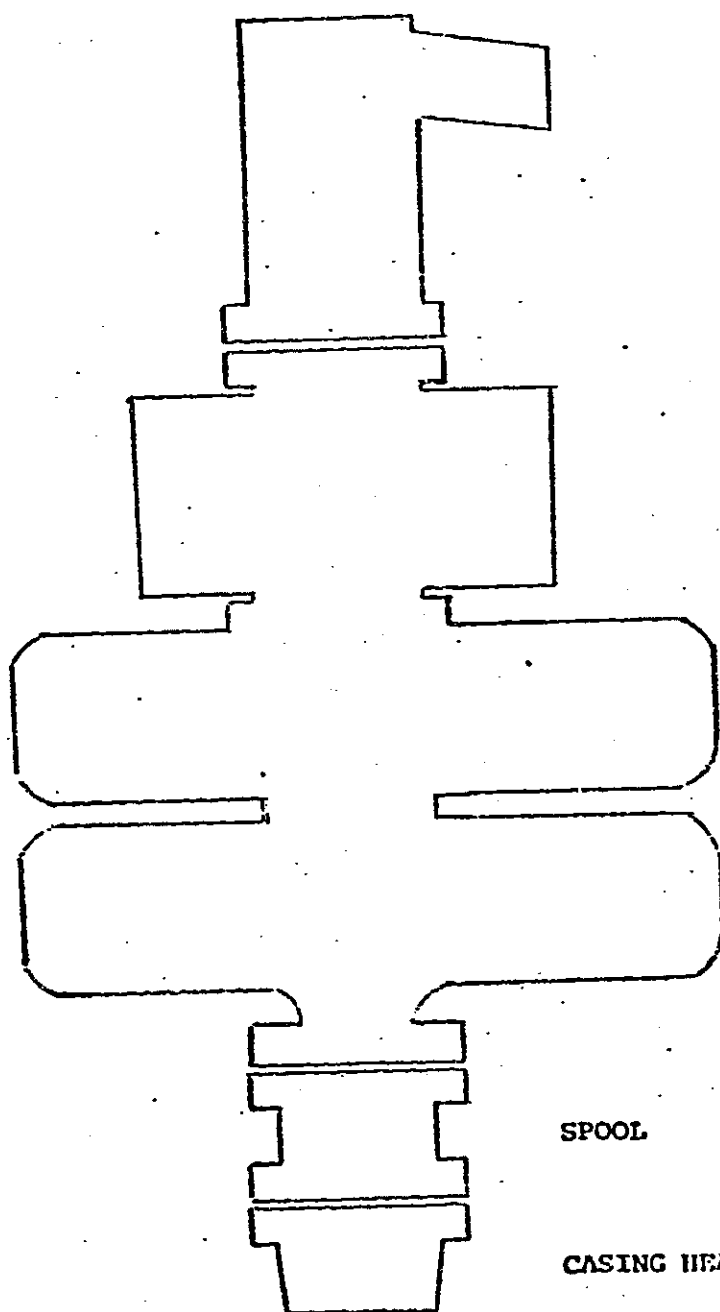
DIAGRAM OF WELL LOCATION

RECEIVED
MAR 10 1973
O & G 0373. COMM.

657

MMI BLOWOUT PREVENTER DIAGRAM (HYDRAULIC)

CHOKE MANIFOLD IS X IS NOT REQUIRED



HYDRIL SIZE SERIES

DOUBLE GATE SIZE 10"
SERIES 900

SPOOL SIZE SERIES

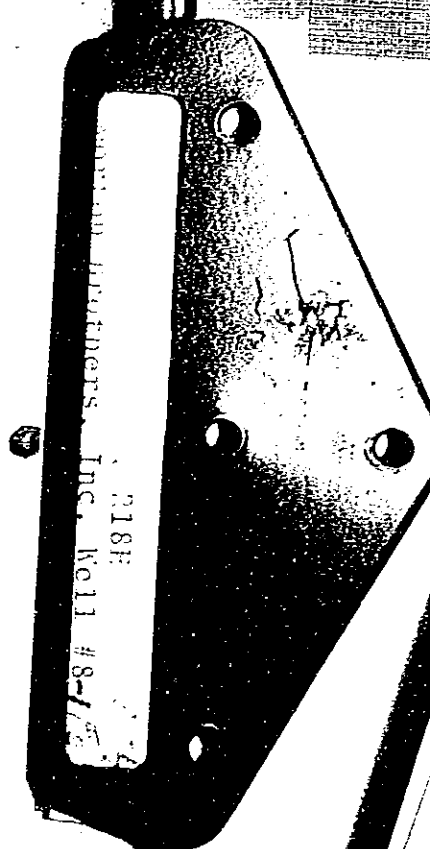
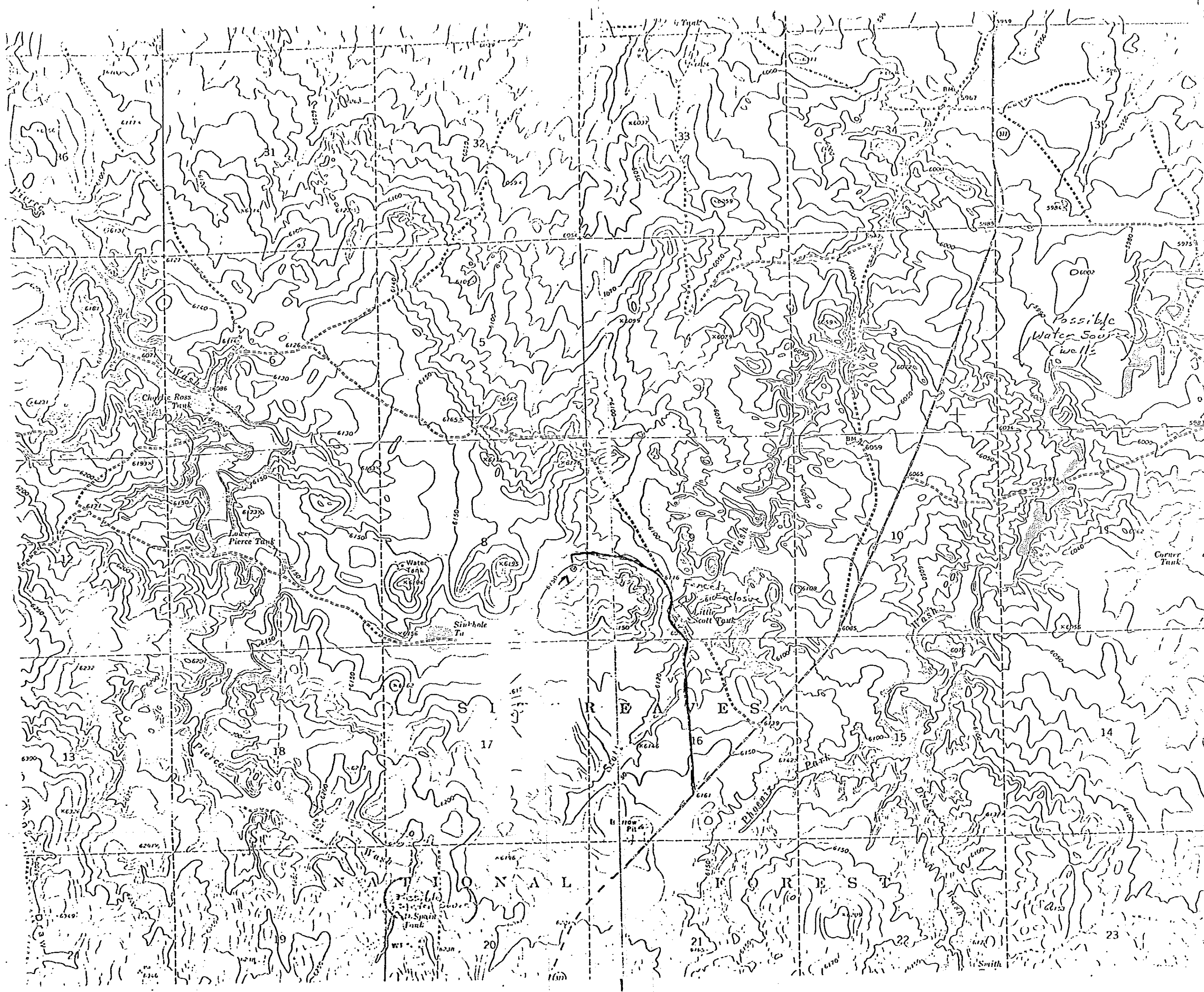
CASING HEAD SIZE SERIES

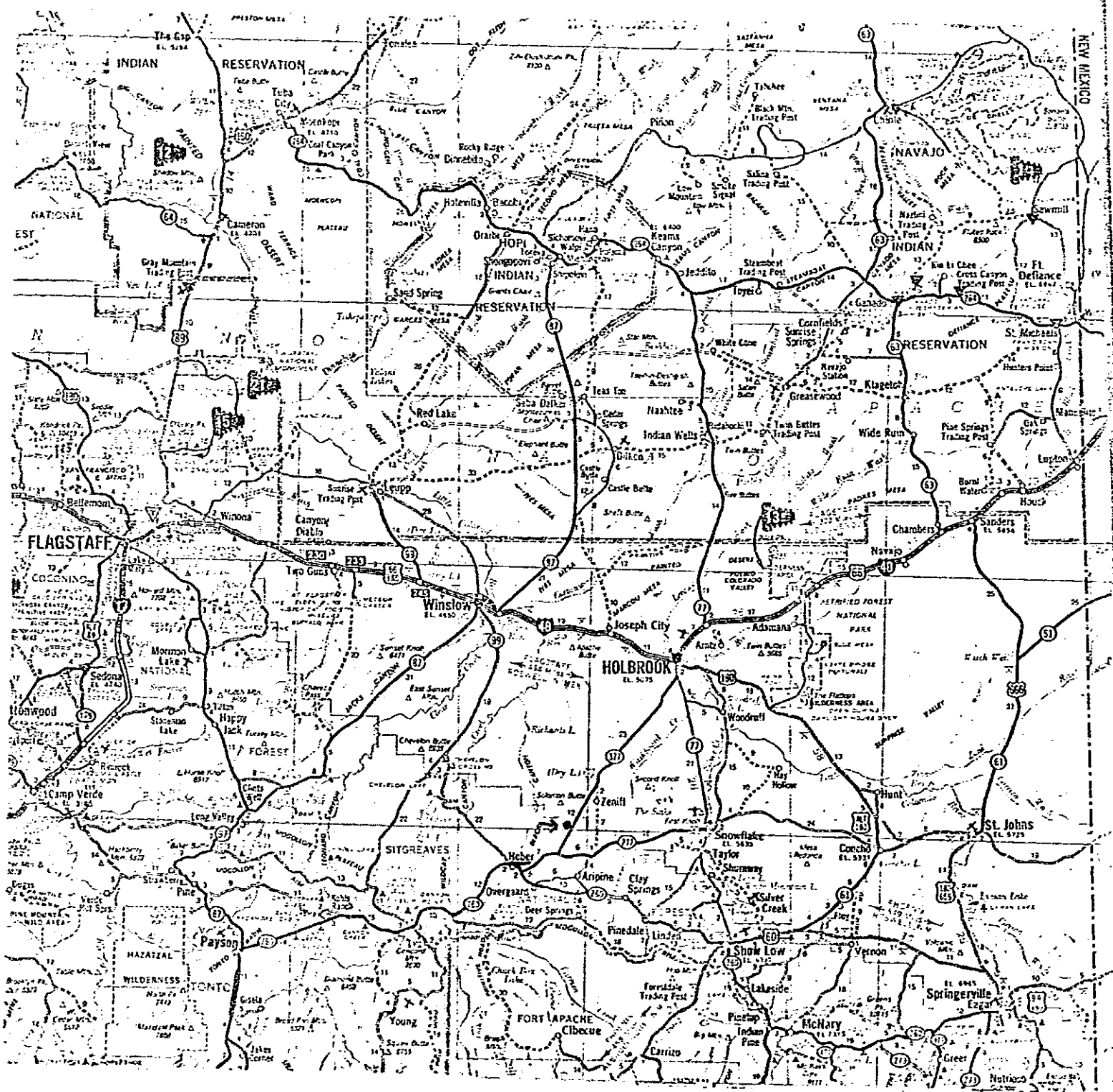
RECEIVED

MAY 19 1973

O & G CORP. COMM.

654



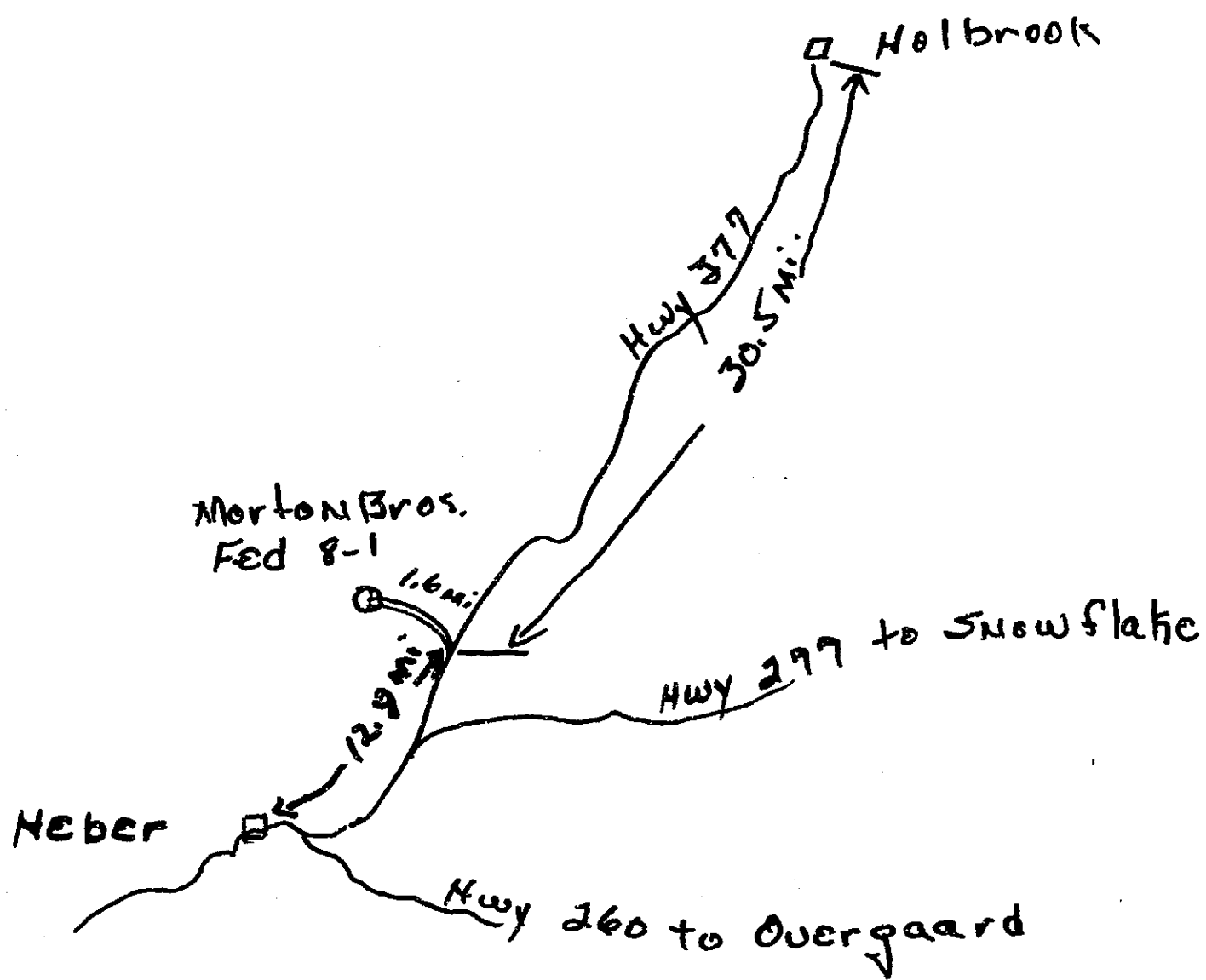


654

RECEIVED

LAN 1000

O & G CORP. COMM.



Permit 654 Morton Bros Fed 8-1

APPLICATION FOR PERMIT TO DRILL OR RE-ENTER

APPLICATION TO DRILL ☒

RE-ENTER OLD WELL ☐

NAME OF COMPANY OR OPERATOR

MORTON BROTHERS, INC. c/o Minerals Management, Inc.

Address 501 Airport Dr. Suite 210 City Farmington State New Mexico 87401

Drilling Contractor

Address

DESCRIPTION OF WELL AND LEASE

Federal, State or Indian Lease Number, or if fee lease, name of lessor Federal A-7995 Well number 8-1 Elevation (ground) 6153

Nearest distance from proposed location to property or lease line: 330 feet Distance from proposed location to nearest drilling, completed or applied-for well on the same lease: feet

Number of acres in lease: 2418.88 Number of wells on lease, including this well, completed in or drilling to this reservoir:

If lease, purchased with one or more wells drilled, from whom purchased: Name Address

Well location (give footage from section lines) 1900 FSL 330 FEL Section--township--range or block and survey Sec. 8 T13N R18E Dedication (Comply with Rule 105) E/2 SE/4

Field and reservoir (if wildcat, so state) Wildcat County Navajo

Distance, in miles, and direction from nearest town or post office 12 Miles northeast Heber, Arizona

Proposed depth: 4000' Rotary or cable tools Rotary Approx. date work will start April 15, 1975

Bond Status Organization Report Filing Fee of \$25.00 Amount On file Or attached Attached Yes

Remarks:

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Area Manager of the Minerals Management Inc. (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

RECEIVED

MAR 15 1975

O & G CONS. COMM.

T. Arnold Small
Signature

March 14, 1975

Date

Permit Number: 454

Approval Date: 12-10-75

Approved By: *W. B. O'Connell*

Notice: Before sending in this form be sure that you have given all information requested. Much unnecessary correspondence will thus be avoided.

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Application to Drill or Re-enter
File Two Copies

Form No. 3

(Complete Reverse Side)

1. Operator shall outline the dedicated acreage for both oil and gas wells on the plat.
2. A registered professional engineer or land surveyor registered in the State of Arizona or approved by the Commission shall show on the plat the location of the well and certify this information in the space provided.
3. All distances shown on the plat must be from the outer boundaries of the Section.
4. Is the Operator the only owner in the dedicated acreage outlined on the plat below? YES ☒ NO ☐
5. If the answer to question four is "no," have the interests of all the owners been consolidated by communitization agreement or otherwise? YES ☐ NO ☐ If answer is "yes," Type of Consolidation _____
6. If the answer to question four is "no," list all the owners and their respective interests below:

Owner	Land Description																
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%; height: 100px;"></td> <td style="width: 25%; height: 100px;"></td> <td style="width: 25%; height: 100px;"></td> <td style="width: 25%; height: 100px;"></td> </tr> <tr> <td style="height: 100px;"></td> <td style="height: 100px;"></td> <td style="height: 100px;"></td> <td style="height: 100px;"></td> </tr> <tr> <td style="height: 100px;"></td> <td style="height: 100px;"></td> <td style="height: 100px;"></td> <td style="height: 100px;"></td> </tr> <tr> <td style="height: 100px;"></td> <td style="height: 100px;"></td> <td style="height: 100px;"></td> <td style="height: 100px;"></td> </tr> </table> </div> <div style="width: 50%;"> <p style="text-align: center;">Sec. 8</p> <div style="position: relative; height: 100px;"> <div style="position: absolute; right: 0; top: 0; transform: rotate(90deg);">330'</div> <div style="position: absolute; right: 0; bottom: 0; transform: rotate(90deg);">1900'</div> </div> </div> </div>																	

0 330 660 990 1320 1650 1980 2310 2640 2000 1500 1000 500 0

PROPOSED CASING PROGRAM

Size of Casing	Weight	Grade & Type	Top	Bottom	Cementing Depths	Sacks Cement
13 3/8	54.5	K-55	Sur	100'	100'	100
8 5/8	24	K-55	face	1000'	1000'	500
5 1/2	14-15	K-55		4000'	4000'	500

CERTIFICATION

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

Name J. Amos Shell
 Position Area Manager
 Company Minerals Management Inc.
 Date March 14, 1975

I hereby certify that the well location shown on the plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed March 13, 1975
 Registered Professional Engineer and/or Land Surveyor
Fred B. Kerr Jr.
 Certificate No. 3950



PERMIT TO DRILL

This constitutes the permission and authority from the

OIL AND GAS CONSERVATION COMMISSION,
STATE OF ARIZONA,

To: MORTON BROTHERS, INC., c/o Minerals Management, Inc.
(OPERATOR)

to drill a well to be known as

Morton Brothers, Inc., Well #8-1
(WELL NAME)

located 1900 FSL 330 FEL

Section 8 Township 13N Range 18E, Navajo County, Arizona.

The B/2 SE/4 Sec 8, T 13N, R18E of said
Section, Township and Range is dedicated to this well.

Said well is to be drilled substantially as outlined in the attached Application and must be drilled
in full compliance with all applicable laws, statutes, rules and regulations of the State of Arizona.

Issued this 10 day of December, 19 75.

OIL AND GAS CONSERVATION COMMISSION

By W. E. Coe

EXECUTIVE SECRETARY

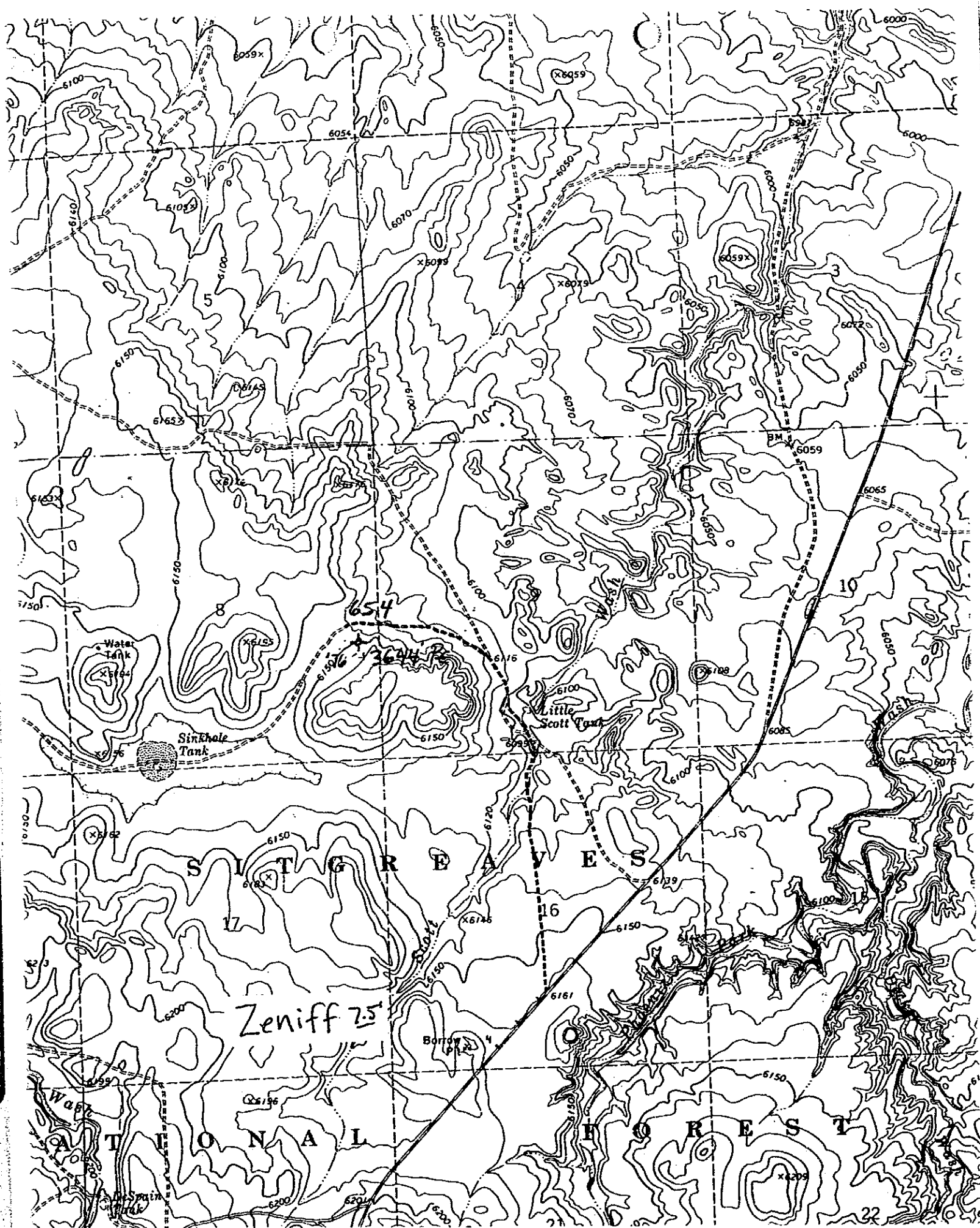
PERMIT No 654

RECEIPT NO. 0511
Samples are required
API #02-017-20012

State of Arizona
Oil & Gas Conservation Commission

Permit to Drill

FORM NO. 27





RECEIVED

JAN 30 197

O & G CONS. COMM.

GEOLOGICAL REPORT

MORTON BROTHERS, INC.

Federal #8-1
330 FEL & 1900 FSL
Section 8, T 13 N, R 18 E
Navajo County, Arizona

Geologist:

David T. Pawel
Denver, Colorado

Robert L. Schulz
Kittredge, Colorado

654

TABLE OF CONTENTS

Resume	1 - 2
Summary and Conclusions	3
Formation Tops	4
Electric Log Data	5 - 8
Visual Sidewall Core Inspection	9
Daily Drilling Chronology	10 - 11
Bit Record	12
Mud Record	13
Drilling Functions	14
Penetration Rate/Time Report	15
Penetration Rate/Time Chart	16
Lithology	17 - 22
Lithologic Log in Back Flap	

RESUME

OPERATOR: Morton Brothers, Inc.
WELL NAME & NUMBER: W. C. Federal #8-1
LOCATION: 330 FEL & 1900 FSL, Sec 8
T 13 N, R 18 E
AREA: Holbrook
COUNTY: Navajo
STATE: Arizona
ELEVATION: 6153' GL. 6165' KB.
ENGINEER: Bill Landry, Minerals Management, Inc.
GEOLOGIST: Bob Schulz, David Pawel
SPUD DATA: December 29, 1975
COMPLETION DATE: January 14, 1975
HOLE SIZE: 12 1/4" to 146'; 7 7/8" from
146' to T.D.
CASING: 13 3/8" @ 146'; 8 5/8" @ 665'
CEMENTING: Halliburton
CONTRACTOR: Coleman Drilling Co.
EQUIPMENT: Rig #1
TOOLPUSHER: Jack Davis
DRILLERS: Jones, Blakley, Vestal, Storie
DRAWWORKS: Wilson
DERRICK: Wilson

RESUME (cont'd)

PUMP:	No. 1 D-500, No. 2 D-300
DRILL COLLARS:	19 @ 6 1/4"
DRILL PIPE:	4 1/2" X Hole
DRILLING MUD:	Baroid
MUD TYPE:	Gel Chemical to 665' Saturated Salt 665' to T. D.
MUD ENGINEER:	Don Sims, Gary Simpson, Dale Schroeder
MUD LOGGING:	Monaco Engineering, Inc.
TYPE UNIT:	1 - Man Mudlogging
ENGINEER:	Bob Schulz
CORES:	Schlumberger (Sidewall)
ELECTRIC LOGS:	Schlumberger
TYPE LOGS:	Compensated Neutron Formation Density 0-TD Dual Laterolog 1300-TD F-Log 1320' - TD
ENGINEER:	Fiacco
TOTAL DEPTH:	3644' Driller; 3644' Logger
DRILLING TIME:	17 Days
BOTTOM FORMATION:	Basement (Pre-Cambrian)

SUMMARY AND CONCLUSIONS

The W. C. Federal #8-1 was drilled by the Morton Brother's, Inc. to a total depth of 3644 feet. The well spudded in the Kiabab limestone and penetrated the Pre Cambrian basement.

There were five zones of interest in the prospective area. These were, in ascending order, the Devonian Martin formation, the Mississippian Redwall limestone, the Pennsylvanian, Naco formation, the Fort Apache, member of the Permian Supai formation and the Permian Coconino formation.

No evidence of staining, cut or gas shows were encountered in the zones of interest. Areas of lost circulation were tested by shooting sidewall cores. Here again, no evidence of staining or cut was found.

Pipe is being set on this well on the basis of the CN. Formation Density Log which shows gas in an interval of lost circulation.

FORMATION TOPS

Surface Elevation = 6165' KB

<u>FORMATION</u>	<u>SURFACE DEPTH</u>	<u>SUB SEA</u>
Ft. Apache of Supai	1308'	+ 4857'
Pennsylvanian (Naco)	2614'	+ 3551'
Mississippian (Redwall)	3350'	+ 2815'
Devonian (Martin)	3392'	+ 2773'
Pre-Cambrian	3580'	+ 2585'
T. D.	3644'	+ 2521'

Schlumberger

DUAL LATEROLOG

SIMULTANEOUS

COUNTY		LOCATION		WELL		COMPANY	
COUNTY ARIZONA		WELL FEDERAL 8 #1		FIELD WILCOAT		COMPANY MORTON BROTHERS, INC.	
LOCATION		330' FEL 1900 ESL		COUNTY ARIZONA		STATE ARIZONA	
API SERIAL NO.		8		TWP		13 N	
SEC		18 E		RANGE		18 E	
Other Services:		FDC/CM/162					
Permanent Datum: GROUND LEVEL		Elev.: 6153		Log Measured From: K.B.		Elev.: K.B. 6165	
Drilling Measured From: K.B.		12 Ft. Above Perm. Datum				D.F. 6164	
						G.L. 6153	
Date	1-14-76						
Run No.	710						
Depth-Driller	3646						
Depth-Logger (Schl.)	3645						
Bim. Log Interval	36.31						
Top Log Interval	12.88						
Casing-Driller	65' @ 645						
Casing-Logger	71' @ 645						
Bit Size	7 1/8						
Type Fluid in Hole	SALT SAT.						
Dens. Visc.	10.5 60						
PH	6.2 6.4						
Source of Sample	Flowline						
Rm @ Meas. Temp.	1059 @ 59 °F						
Rmf @ Meas. Temp.	106 @ 61 °F						
Rmc @ Meas. Temp.	106 @ 61 °F						
Source: Rmf Rmc	M C						
Rm @ BHT	104 @ 93 °F						
Circulation Stopped	1:14 0510						
Logger on Bottom	1:14 0500						
Max. Rec. Temp.	93						
Equip. Location	7656 FARM						
Recorded By	REINHOLD						
Witnessed By	MR. LANDRY						

LOGGING DATA

GR	Sensitivity	0-100
	Scale - 100 Div.	0-100
	T. T. - sec	2

Speed FPM 30

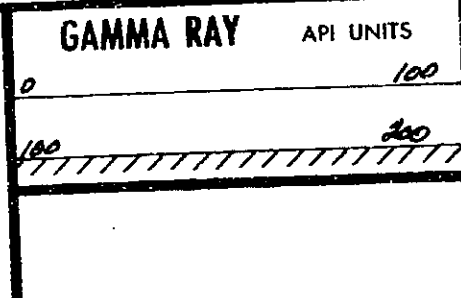
BOTTOM HOLE TEMPERATURE

Time Entering Hole	0730
Time Bottom Reached	0800
Time Last Off Bottom	0815
Time Out of Hole	0900
Distance TD to Therm.	30'
Thermometer #1	93 °F
Thermometer #2	°F
Thermometer #3	°F

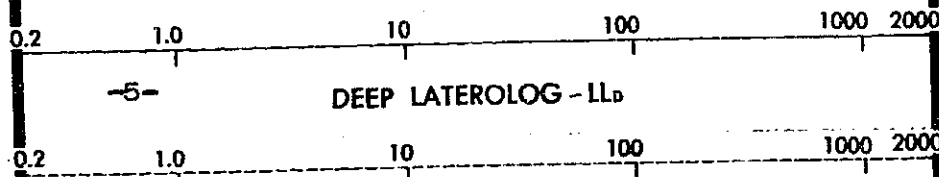
Rw FROM DRILL STEM TEST

DST #1 - Rw @ 100 °F	ΩM	ΩM	ΩM	ΩM
DST #2 - Rw @ 100 °F	ΩM	ΩM	ΩM	ΩM

All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to Clause 7 of our General Terms and Conditions as set out in our current Price Schedule.



DEPTH

RESISTIVITY OHMS. M² M
SHALLOW LATEROLOG - LL_s

FT. APACHE

LR
1300

1308 (4857)

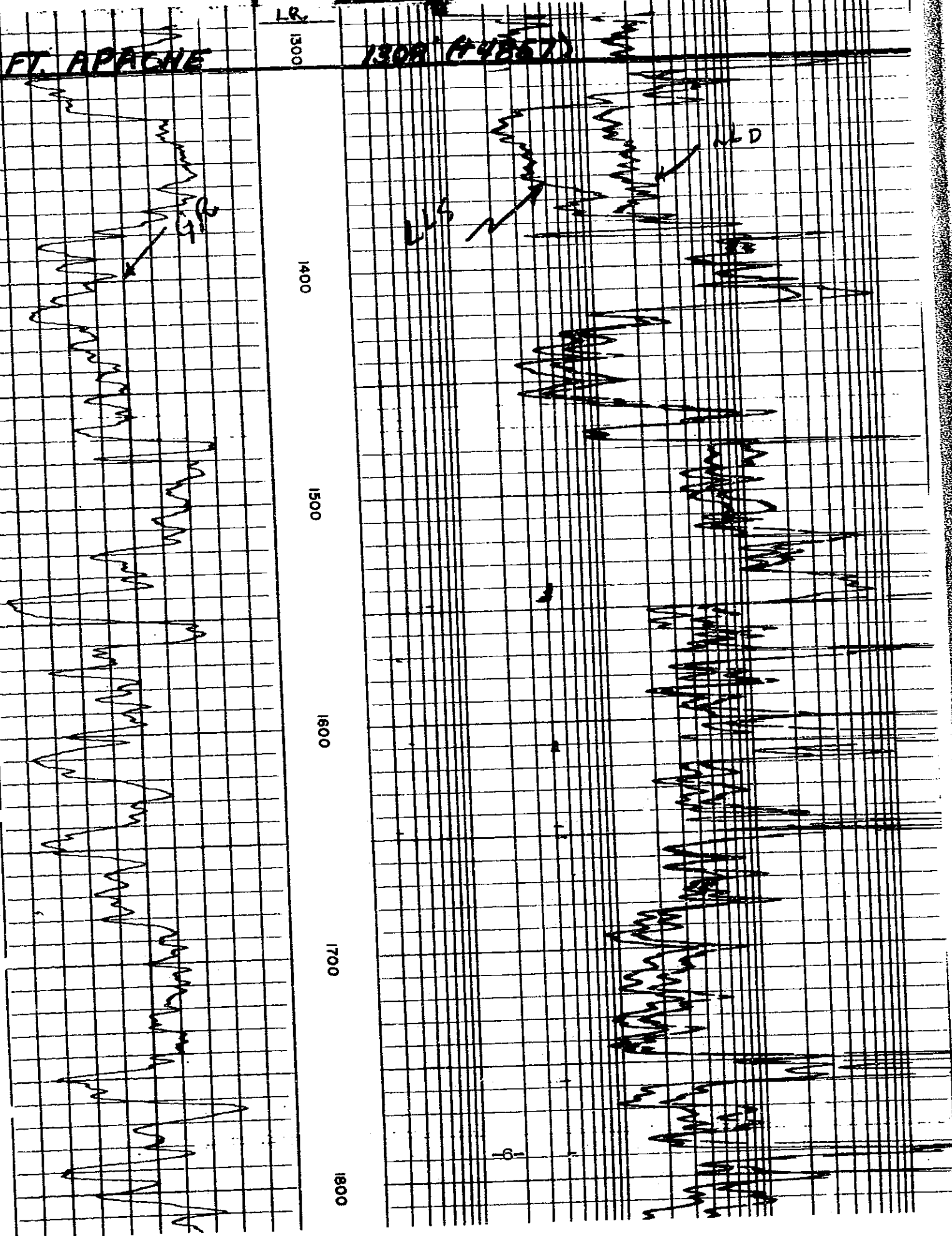
1400

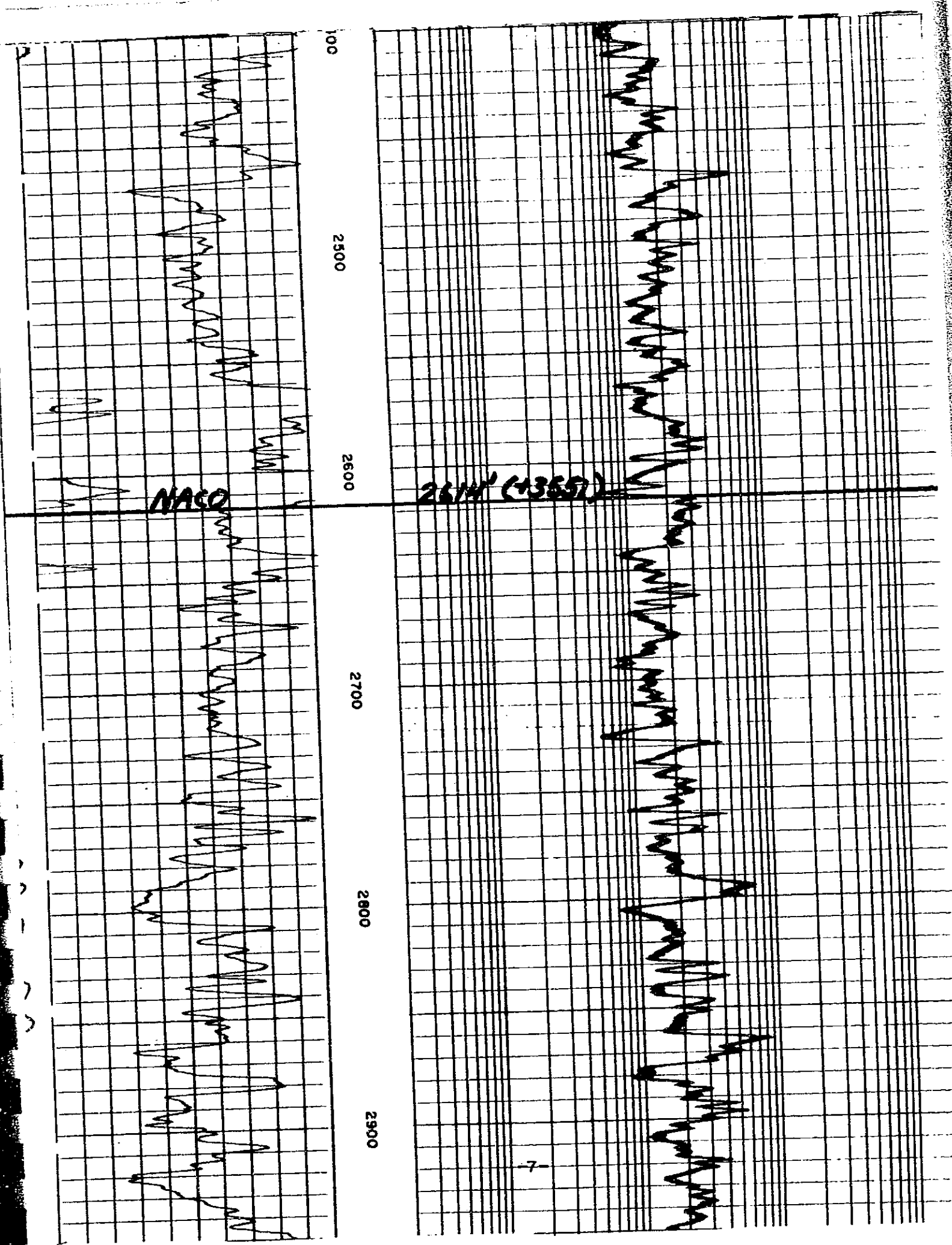
1500

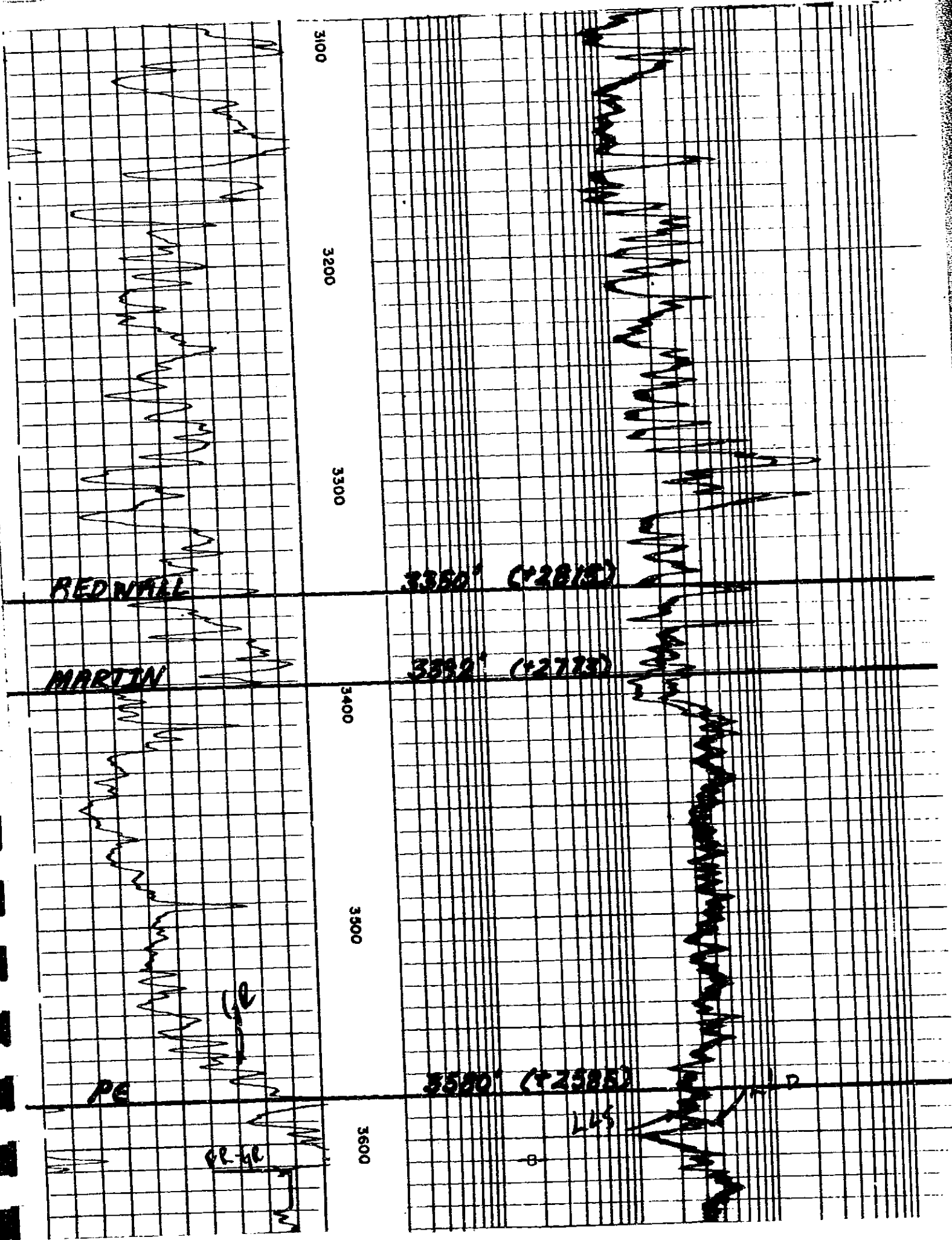
1600

1700

1800







VISUAL SIDEWALL CORE ANALYSIS REPORT

1 1/2" gun

3392 Ss, gy, vfg, hd, S & P, qtzitic, anhy, no fluo, no cut.
3398 Ss, wh, fg, uncons, sl lmy, anhy, no fluo, no cut.
3400 Ss, wh, fg, uncons, sl lmy, sub rd, anhy, no fluo, no cut.
3406 Ss, wh, fg, uncons, anhy, no fluo, no cut.

3" gun

1312 Salt, cl w/tr ss, wh-gy, vfg, no fluo, no cut.
1318 Ls, brn, uncons, petro-odor, no fluo, no cut.
1614 Salt, cl
1646 Salt, cl
1650 Salt, cl
1790 Anhy, wh w/qtz, grains, no fluo, no cut
1792 Salt
1802 Thin interbedded salt, cl w/anhy, wh w/ss,
wh, fg, uncons, no fluo, no cut.
1804 Salt, w/sh, rd.
3394 Ss, wh, fg, uncons, anhy, no fluo, no cut
3398 Ss, gy, fg, S & P, no fluo, no cut.
3400 Ss, wh, fg, uncons, sl lmy, sub rd, no fluo, no cut.
3404 Sh, rd, hd, slty.
3406 Ss, wh, fg, uncons, sl lmy, sub rd, no fluo, no cut.

DAILY DRILLING CHRONOLOGY

12/29/75	0'	8:00 am - Rig up, wait on water. Spud @ 8:00 pm with 12 1/4" Bit #1. 2:00-3:00 a.m. Lay down D. C. and pick up reamer. Ream from 0-124'.
12/30/75	124'	8:00 am - Finish reaming hole. Run 13 3/8 casing set at 143' with 200 sx class B cement. W.O.C. Plug down at 1:45 pm. Nipple up pressure. Pressure up 600 lbs. 30 min (OK). Drill cement 30'. Bit-plugged, go back to bottom. Drilling.
12/31/75	310'	8:00 am - Drilling. Lost circulation. (Lost 50 barrels) 10:45-12:00. At 1:30 circulate and wait on casing crew. Bit plugged. Jet suction pit and go in hole circulate. Pull out of hole to run casing. Cement at 11:30 pm. Plug down at 12:30 am. Cement with 475 sx class B cement. Set 652' of 8 5/8" casing @ 665'. W.O.C. 12:30 - 8:00 am.
1/1/76	665'	W.O.C. Mix salt base mud. Pressure 1000 lbs. for 30 min. (OK). Drilling at 6:30 pm. At 10:45 pm stuck on bridge at 729'. Trip at 2:30 am. Circulate and condition mud until 8:00 am.
1/2/76	729'	8:00 am - Mix salt and gel to condition mud. Drilling at 11:00 pm. Survey 3:00-3:30 pm. Drilling lost circulation (65 barrels) pull 6 stand and mix mud. Drilling. Bit plugged. Trip and survey.
1/3/76	1156'	8:00 am - Run drill collars in hole two jets plugged. Pull plugged bit, mix mud.
1/4/76	1198	8:00 am - LCM in pump. Drilling 8:30 am - 3:00 pm. Trip at 3:00 pm. Drilling at 8:30 pm. Wash 45' to bottom. 7:15 am survey, trip out for bit.
1/5/76	1450'	8:00 am - Trip. Drilling at 10:15 am. Circulate for logs at 4:15 pm. Short trip. Logging at 7:00 pm. Rig repairs. Drilling at 8:00 am.
1/6/76	1561'	8:00 am - Drilling. Run survey at 8:00 am. Drilling.
1/7/76	2135'	8:00 am - Drilling.

DAILY DRILLING CHRONOLOGY (cont'd)

1/8/76	2375'	8:00 am - Drilling. Trip at 2:00 pm. Drilling at 6:00 pm.
1/9/76	2569'	8:00 am - Drilling.
1/10/76	2784'	8:00 am - Drilling. Trip 12:30 - 4:00 pm. Drilling.
1/11/76	3104'	8:00 am - Drilling. Trip 2:30 pm. Drilling at 5:30 pm.
1/12/76	3310'	8:00 am - Drilling. 4:30 - 8:00 pm. Lost circulation - 300 bbls. mud. Circulate for samples 9:00 - 10:00 pm. Drilling at 10:00 pm.
1/13/76	3497'	8:00 am - Drilling until 5:00 am, trip to log.
1/14/76	3644'	5:00 am - T.D. 3644'. Log and Sidewall core until 7:00 pm.

BIT RECORD

<u>NO.</u>	<u>MAKE</u>	<u>TYPE</u>	<u>SIZE</u>	<u>IN</u>	<u>OUT</u>	<u>FOOTAGE</u>	<u>HRS.</u>
1	HTC	OSC 3	12 1/4	0	146	146	
2	SMITH	DGJ	12 1/4	146	665	519	7
3	SMITH	DTT	7 7/8	665	729	64	4 1/4
4	SMITH	DGT	7 7/8	729	1156	427	8 1/2
5	SMITH	DGT	7 7/8	1156	1450	294	18 1/2
6	SMITH	F-2	7 7/8	1450	1501	51	6
		#6 Pulled to Log					
7	SMITH	F-2(RR)	7 7/8	1501	2436	935	63
8	SMITH	F-3	7 7/8	2436	2890	454	40 3/4
9	SMITH	SDG	7 7/8	2890	3178	282	25
10	SMITH	F-3(RR)	7 7/8	3178	3644	466	56

MUD RECORD

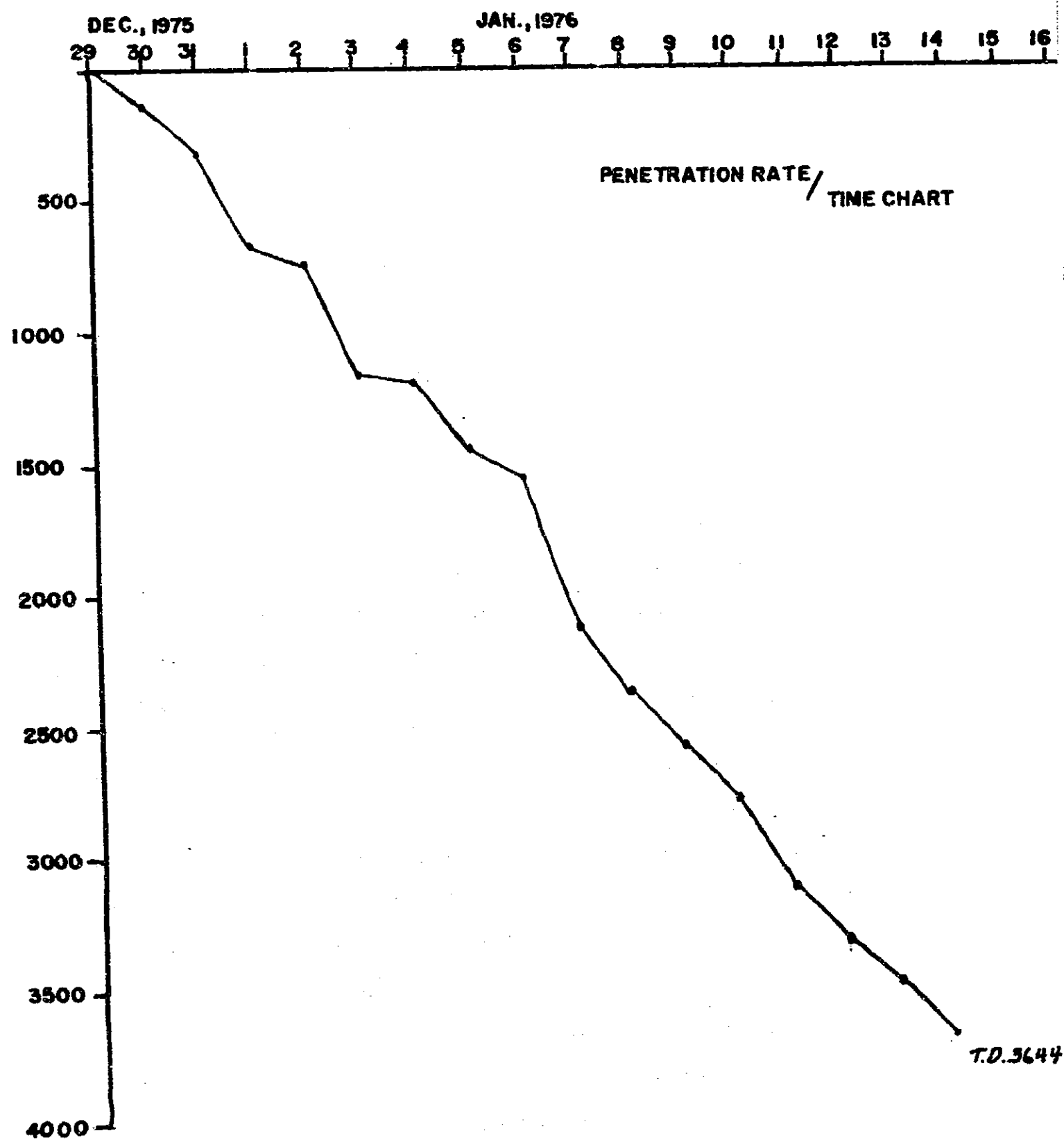
Depth	Wt	F. Vis	P. Vis.	yield	gel strength	pH	filtr.	ck.	alka.	salt	cal- cium	gel/ sand%	lcm%	NaCr O4	CUM COST
415	8.70	31	5	0	0	7.2	13.6	1	.17	0	32	0	0	0	\$ 1,189.15
729	9.90	40	10	12	0/3	6.0	114.0	10	00/0	185,000	600	Tr	0	900	10,403.30
903	10.00	39	11	11	6/12	7.5	81.0	32	00/.25	161,000	750	Tr	38	0	28,785.80
1156	9.44	41	10	10	6/16	7.3	196.0	3	00/.20	71,000	750	0	20	0	
1298	9.20	33	10	4	4/10	7.3	90.0	3	00/.20	275,000	760	Tr	10	0	
1328	9.50	32	9	15	10/18	7.3	10.0	1	00/.70	250,000	900	.50	25	0	33,979.00
1390	10.00	43	15	14	8/16	7.0	14.0	1	00/.20	220,000	800	1.50	18	400	
1450	9.9+	36	12	32	21/48	7.8	12.4	2	00/.20	220,000	4200	1.50	15	500	36,673.00
1601	10.25	85	24	22	10/29	7.8	9.6	2	00/.15	212,000	2760	2.00	10	600	
1824	10.50	63	22	20	12/33	7.3	15.4	2	00/.20	168,000	2800	1.00	8	800	38,011.00
2155	11.00	57	26	12	5/18	7.2	12.0	2	00/.30	183,000	2800	1.50	5	300	40,394.00
2268	10.50	37	14	17	10/18	7.3	12.0	2	00/00	280,000	2800	1.75	2	400	41,492.00
2404	10.50	42	19	10	10/22	7.2	30.4	4	00/00	220,000	2800	1.00	1	500	
2692	10.20	40	20	9	10/20	6.2	18.2	3	00/00	180,000	2700	.50	1	800	45,820.00
2854	10.10	40	15	12	12/28	6.2	13.8	3	00/00	180,000	2800	.25	0	600	
2890	10.35	39	18	4	5/10	6.2	8.0	3	00/00	200,000	2800	.25	0	500	49,062.00
2939	10.20	38.5	8	8	5/18	6.2	10.8	3	00/00	185,000	2800	.25	0	600	
3110	10.10	42	15	11	8/22	6.2	8.0	3	00/.30	185,000	2800	.25	0	500	50,186.00
3142	10.20	43	17	10	6/24	6.2	12.0	3	00/.10	185,000	2800	1.00	0	800	
3316	10.00	43	15	7	4/15	6.2	6.4	4	00/.30	140,000	1800	1.00	10	100	
3379	10.50	41	15	18	11/28	6.2	22.4	4	00/.30	175,000	1800	1.00	10	100	
3406	9.80	51	25	20	12/28	6.2	12.0	4	00/.30	165,000	1800	1.50	8	500	54,476.00
3488	10.10	44	26	11	10/25	6.2	3.6	2	00/.30	165,000	1800	2.00	5	700	\$56,208.00
3560	10.30	49	22	8	5/15	6.2	6.4	2							
3620	10.35	40	16												

DRILLING FUNCTIONS

<u>DEPTH</u>	<u>W. O. B.</u>	<u>R. P. M.</u>	<u>P. P.</u>	<u>DEVIATION</u>
146'	ALL	60	1100	1 1/4°
310'	50	60	1100	3 °
665'	20/25	75	1200	3 °
721'				
729'	30	80	1500	2 1/4°
913'				
984'	30	75	1200	3 °
1156'	15/20	50	250	
1198'	15	50	300	
1387'	15/20	50	300	2 °
1450'	10/30	45	200	
1497'	10/30	45	200	
1501'	30	45	500	
1561'	30	45	500	
1743'	30	45	700	
1900'	30/40	45	500	1 3/4°
2000'				
2135'	30	45	500	
2230'	30	45	500	
2307'	30	45	700	
2375'	30	45	600	
2436'	30	45	1000	1/2°
2569'	30/40	45	1000	
2784'	35/40	45	1000	
2880'	35/40	45	1350	1 1/4°
2890'				
2923'	30	45	1400	
3018'	35/40	65	1400	
3104'	40	65	1400	
3178'	30	45	1400	3/4°
3228'	35/40	35	1300	
3310'	40	35	1300	
3425'	40	35	1100	
3497'	40	35	1100	

PENETRATION RATE/TIME REPORT

DATE	RIG ACTIVITY	FOOTAGE 24 HOURS	ACCUM. FOOTAGE
		0'	0'
12/29/75	Rig up	124'	124'
12/30/75	Drilling	186'	310'
12/31/75	Drilling	355'	665'
1/1/76	Drilling	64'	729'
1/2/76	Drilling	427'	1156'
1/3/76	Drilling	42'	1198'
1/4/76	Drilling	252'	1450'
1/5/76	Drilling and logging	111'	1561'
1/6/76	Drilling	574'	2135'
1/7/76	Drilling	240'	2375'
1/8/76	Drilling	194'	2569'
1/9/76	Drilling	215'	2784'
1/10/76	Drilling	320'	3104'
1/11/76	Drilling	206'	3310'
1/12/76	Drilling	187'	3497'
1/13/76	Drilling	147'	3644'
1/14/76	Drilling		T. D.



LITHOLOGY

640 - 660	Ss, wh-yel, f-m gr, g srt, sub ang, tr por w/tr ss rd f-mgr, g srt, sub ang, tr por w/wh kao cly.
660 - 680	Ss, yel, red w/wh f-mgr, g srt, sub ang, tr por, w/slt, gy, arg, v calc.
680 - 690	Aa, w/ss, cl, cg, fros, sub ang, qtz.
690 - 720	Ss, rd w/yel, f-mgr, g srt, sub ang, tr por w/wh kao cly, w/cong, gy, f-cg v calc w/tr ls, pk, vfxl, v dse.
720 - 730	Ss, rd-yel, mgr, g srt, sub ang, w/wh kao w/cong aa, w/ss, cl, cg, fros, sub ang, qtz.
730 - 740	Salt clr.
740 - 750	Salt, aa, w/tr ss, tel, aa.
750 - 760	Ss, rd-org-yel-wh, f-mg, g srt, sub ang w/wh kao.
760 - 790	Ss, yel, w/rd-wh, f-m, g srt, sub ang w/tr gyp.
790 - 810	Ss, rd w/yel, wh, aa, w/sh dk gy, blk.
810 - 870	Ss, yel-rd, aa, w/gyp wh.
870 - 890	Ss, org-rd-wh, aa, cl, slty, w/gyp, aa, w/gyp, cl-wh, w/tr ls tan, vfxl dse.
890 - 900	Ss, aa, w/gyp, cl-wh, w/tr ls, tan vfxl dse.
900 - 930	Ss, aa, w/lots gyp, aa, w/tr sh, dk gy-blk.
930 - 950	Ss, aa, w/slt, dk gy, arg, sdy, w/tr gyp, aa.
950 - 980	Aa, v poor samples.
980 - 990	Ss, aa, w/slt, aa, w/salt cl.
990 - 1000	Salt w/ss, aa.
1000 - 1010	Dol, brn, vfxl, dse, no fluo, no cut, w/gyp wh.
1010 - 1020	Gyp, aa, w/sl, aa, w/slt, gy, arg, sdy.
1020 - 1030	Gyp, aa, w/slt, rd, arg, sdy.
1030 - 1070	Slt, aa, w/gyp, aa.
1070 - 1080	Dol, brn, vfxl, dse, sl lmy, chiky, no fluo, no cut.

LITHOLOGY

640 - 660	Ss, wh-yel, f-m gr, g srt, sub ang, tr por w/tr ss rd f-mgr, g srt, sub ang, tr por w/wh kao cly.
660 - 680	Ss, yel, red w/wh f-mgr, g srt, sub ang, tr por, w/slt, gy, ang, v calc.
680 - 690	Aa, w/ss, cl, cg, fros, sub ang, qtz.
690 - 720	Ss, rd w/yel, f-mgr, g srt, sub ang, tr por w/wh kao cly, w/cong, gy, f-cg v calc w/tr ls, pk, vfxl, v dse.
720 - 730	Ss, rd-yel, mgr, g srt, sub ang, w/wh kao w/cong aa, w/ss, cl, cg, fros, sub ang, qtz.
730 - 740	Salt clr.
740 - 750	Salt, aa, w/tr ss, tel, aa.
750 - 760	Ss, rd-org-yel-wh, f-mg, g srt, sub ang w/wh kao.
760 - 790	Ss, yel, w/rd-wh, f-m, g srt, sub ang w/tr gyp.
790 - 810	Ss, rd w/yel, wh, aa, w/sh dk gy, blk.
810 - 870	Ss, yel-rd, aa, w/gyp wh.
870 - 890	Ss, org-rd-wh, aa, cl, slty, w/gyp, aa, w/gyp, cl-wh, w/tr ls tan, vfxl dse.
890 - 900	Ss, aa, w/gyp, cl-wh, w/tr ls, tan vfxl dse.
900 - 930	Ss, aa, w/lots gyp, aa, w/tr sh, dk gy-blk.
930 - 950	Ss, aa, w/slt, dk gy, ang, sdy, w/tr gyp, aa.
950 - 980	Aa, v poor samples.
980 - 990	Ss, aa, w/slt, aa, w/salt cl.
990 - 1000	Salt w/ss, aa.
1000 - 1010	Dol, brn, vfxl, dse, no fluo, no cut, w/gyp wh.
1010 - 1020	Gyp, aa, w/sl, aa, w/slt, gy, ang, sdy.
1020 - 1030	Gyp, aa, w/slt, rd, ang, sdy.
1030 - 1070	Slt, aa, w/gyp, aa.
1070 - 1080	Dol, brn, vfxl, dse, sl lmy, chlky, no fluo, no cut.

LITHOLOGY (cont'd)

1080 - 1100	Dol, aa, w/ls, lt brn, f-mxl dse, no fluo, no cut, w/gyp, w/
1100 - 1110	Ls, aa, dol sl slty w/dol, aa, w/gyp, aa, w/tr ss, rd, org, yel, fg, g srt, sub ang.
1110 - 1120	Ss, aa, w/salt.
1120 - 1220	No returns, all LCM, VPS, prob. cavings
1220 - 1230	Slt, gy, arg & slt rd sdy, sli fri, VPS.
1230 - 1400	No ret, all LCM
1400 - 1430	Anhy, gy, w/ls, gy, vfxl, sl slty, w/dol, brn, vfxl, dse
1430 - 1460	Dol, gy-brn, vf-mxl, slty, lmy, suc & vug por, yel fluo, no cut, tr dead oil, w/anhy, gy, w/dol, aa.
1460 - 1480	Aa less fluo, w/tr slt, rd, arg, sdy.
1490 - 1500	Aa, w/sh, rd.
1500 - 1510	Dol, aa, sli yel fluo, no cut, w/slt, rd, sdy, w/anhy, gy.
1510 - 1540	Dol & slt & anhy, aa, w/tr ss, org, mg, fri.
1540 - 1550	Anhy, wh, w/slt, aa, w/dol, aa.
1550 - 1590	Slt, aa, w/dol, aa, w/anhy, wh.
1590 - 1730	Slt, aa, w/dol, aa, w/anhy, wh-gy.
1730 - 1740	Slt, rd, arg, sdy, w/ss, yel, fg, g srt, sub ang.
1740 - 1790	Aa, poor samples mostly LCM.
1790 - 1900	Aa, salt & LCM, limited & no returns.
1900 - 2000	Slt, rd, arg, sdy, firm, w/anhy wh-lt gy & w/tr dol, brn fxl slisly & lmy yel fluo, no cut.
2000 - 2040	Aa, w/sh, rd, soft.
2040 - 2060	Slt, rd, arg, sdy, fri w/sh, rd, soft
2060 - 2070	LCM
2070 - 2080	Sh, mur, sl slty, soft, w/slt, aa.
2080 - 2120	Slt, aa, w/sh, aa, w/ls, gy, f-mxl, dse.
2120 - 2190	Slt, aa, w/sh gy-grn, rd, soft, w/ls, aa.
2190 - 2200	Slt, aa, w/ls, aa.

LITHOLOGY (cont'd)

2200 - 2220	Slt, aa, mur-brn, w/tr ls, aa.
2220 - 2230	Slt, brn, dse, w/slt, mar-rd, sdy, fri, w/ss, pk, vfg, fri & sh, grn, sft.
2230 - 2260	Slt, brn, dse, w/slt mar-rd, aa, w/sh brn, dse, w/ls, gy-grn, vfxl, dse, sl yel fluo, no cut.
2260 - 2290	Slt, brn, dse, w/ls, gy-brn, f-fxl, dse, w/sh, brn, dse.
2290 - 2320	Ls, brn, f-mxl, dse, hd, sli slty, w/slt, brn, dse, calc, w/tr, ls, gy, aa.
2320 - 2350	Slt, aa, w/ls, brn, aa, w/sh, brn, soft.
2350 - 2370	Slt, brn, arg, sl sdy, lmy, w/ls, tan, vf-mg, sl sdy, no fluo, no cut.
2370 - 2390	Slt, aa.
2390 - 2400	Slt, aa, w/sh, gy, v sft.
2400 - 2420	Ls, gy, vfxl, dse, w/sh, gy, v sft, w/slt, aa.
2420 - 2430	Sh, aa, w/ls, aa, w/sl yel fluo, no cut.
2430 - 2460	Slt, rd, arg, sdy, w/sh, aa, w/ls, aa, no fluo.
2460 - 2510	Slt, aa, w/sh, aa, w/ls, aa.
2510 - 2540	Slt, aa, w/sh, aa, w/ls, gy, vf-fxl, dse w/pale yel fluo. No cut, w/tr calc, rhom, wh-clr.
2540 - 2570	Slt rd, arg, sdy, w/ls, aa, w/sh, gy, sft w/calc, aa.
2570 - 2590	Sh, lt gy, hd.
2590 - 2600	Sh, aa, w/ls, gy-crm, vfxl, dse, sl yel fluo, no cut.
2600 - 2630	Ls, gy-crm, vfxl, dse, sl yel fluo, no cut, w/sh lt gy, w/slt, rd, arg, sdy.
2630 - 2670	Slt, rd, arg, sdy, w/ls, aa, w/sh, aa.
2670 - 2700	Ls, aa, w/sh, lt gy, w/sh, aa.
2700 - 2790	Slt, aa, w/sh, lt gy-rd, w/ls, aa.
2790 - 2810	Ls, wh-crm-gy, vfxl, dse, pale yel fluo, no cut, w/slt, rd, arg, sdy, w/sh, gy.

LITHOLOGY (cont'd)

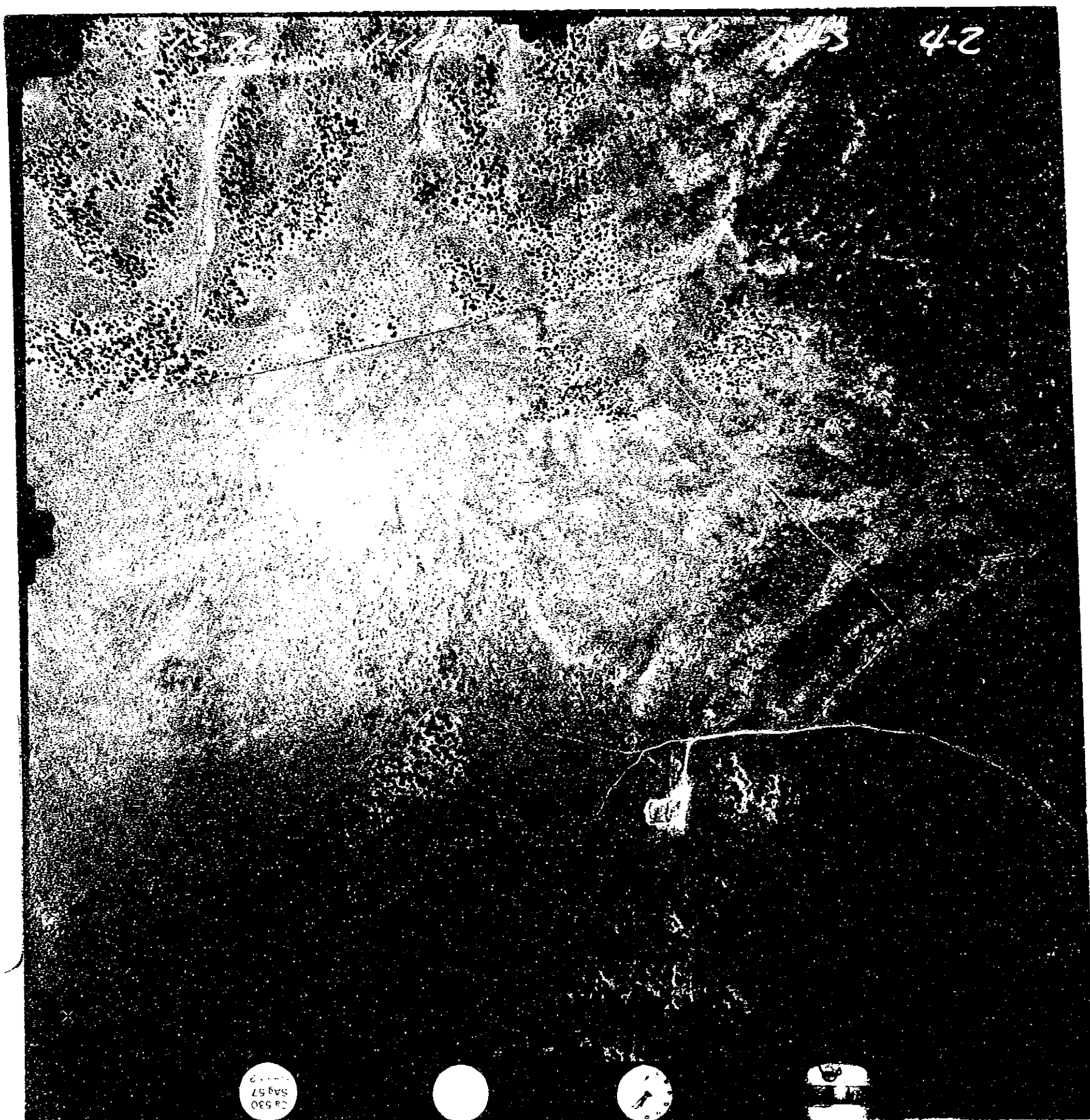
2810 - 2830	Ss, lt gy, f-mg, hd, p sort, sub ang, calc, w/ls, aa w/sh, aa.
2830 - 2860	Sh, lt gy, w/slt, rd, arg, sdy, w/tr ss, aa, w/anhy, wh.
2860 - 2880	Ls, wh, f-mxl, dse.
2880 - 2900	Slt, rd-gy, arg, sdy, w/ls, aa.
2900 - 2910	Ls, gy-wh-crm, vfxl dse, sl yel fluo, no cut, w/chrt, orng-wh.
2910 - 2920	Ls, aa, fos, yel fluo, no cut, w/chrt, aa.
2920 - 2930	Ss, wh, f-mg, calc, g srt, sub rd, w/ls, aa, w/sh, gn, mur.
2930 - 2940	Ss, gy-wh, aa.
2940 - 2950	Ss, gy, vf-fg, calc, p srt, sub rd.
2950 - 2960	Sh, lt gy-gy, calc, sl slty, sft, w/tr ss, aa.
2960 - 2970	Ss, aa, w/sh, aa.
2970 - 2980	Sh, gy, aa, w/ss, gy, aa.
2980 - 3000	Sh, aa, w/ss gy, aa, w/tr ss, crm-pk, vfg, hd.
3000 - 3010	Ss, gy-lt gy, aa, w/sh, aa, w/ls, brn-wh, fxl, dse, fos, yel fluo, no cut, w/anhy, wh.
3010 - 3020	Sh, aa, w/ls, aa, w/ss, aa.
3020 - 3060	Ls, crm-lt gy, vfxl, dse, yel fluo, no cut, w/tr crin frag, w/sh, aa.
3060 - 3080	Sh, pur-gy-rd-gn, w/slt, pur-gy, arg, sdy, w/ls, aa. Chlky.
3080 - 3105	Slt, aa, w/ls, aa, w/sh, aa.
3105 - 3110	Sh, aa, w/slt, aa, w/ls, aa.
3110 - 3115	Ls, crm, m-cxl, dse, rd, cly, fl, w/slt, aa, w/sh, aa.
3115 - 3120	Ls, tr-gy, vfxl, dse, alg, dol, yel fluo, no cut.
3120 - 3125	Ls, aa, w/sh dk gy-gy, hd.

LITHOLOGY (cont'd)

3125 - 3140	Sh, aa.
3140 - 3150	Sh, aa, w/tr ls, aa.
3150 - 3160	Sh, aa, w/ls, aa.
3160 - 3190	Sh, aa, w/ss, wh, fg, sub ang, calc, w/tr ls, aa.
3190 - 3210	Sh, rd, hd, w/slt, rd, arg, sdy.
3210 - 3220	Sh, rd-pur-gy hd, w/slt, rd-pur, aa.
3220 - 3260	Slt, gy, calc, hd, w/sh, gy, sli sity, calc w/ss, lt gy, vfg, calc.
3260 - 3290	Ss, crm-pk, f-mg, hd, w/slt, aa.
3290 - 3300	Ls, crm-wh, m-cxl, v sdy, vug & intxl por.
3300 - 3315	Ls, crm-wh, cxl, sdy, w/rd cly fl, fox, yel fluo, no cut.
3315 - 3325	Ls, aa, w/dol, brn, vfxl, dse, sl yel fluo, no cut.
3325 - 3330	Dol, aa, w/ls, wh, cg, w/tan, col repl of fos, v sdy, yel fluo, no cut, w/sh, pur, sft.
3330 - 3355	Ls, wh-tan-gy, vf-mxl, dse, fos, w/sh, aa, w/slt, rd, arg, sdy.
3355 - 3370	Ls, aa, w/chrt, org, ool, w/slt, aa.
3370 - 3375	Slt, aa, w/ls, aa, w/sh, pur, sft.
3375 - 3380	Aa, w/qtz, xls, cl.
3380 - 3390	Ss, cl, mg, S & P qtzitic, sub rd.
3390 - 3395	Sh, dk gy, sdy, w/ss, aa, w/ls, aa.
900 PM	Ss, tan-wh, vfg, v fri, sil.
915 PM	Ss, pur-wh, mg, hd, qtzitic.
930 PM	Aa, w/sh, pur-gn-gy-rd.
945 PM	Aa.
1000 PM	Ss, cl-pur, mg. S & P, qtzitic, w/sh, aa, w/ls, tan-wh csl, dse, yel fluo, no cut, w/ls, gy-gn, vfxl, dse.
3395 - 3405	No Samples.
3405 - 3420	Aa, w/qtz, xls, cl.

LITHOLOGY (cont'd)

3420 - 3505	Ss, clr/wh-pk-pur, aa, (VPS, mostly LCM).
3505 - 3510	Ss, aa, w/feld & horn poly modal.
3510 - 3520	Aa, bimodal.
3520 - 3570	Ss, cl, m-ch, w/feld & horn poly modal.
3570 - 3595	Ss, aa.
3595 - 3643	Ss, aa, w/grnt, wash, ark, cgl.





PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS

Bond Serial No. Ariz. - 7995

That we: MORTON BROTHERS, INC.

of the County of Natrona in the State of Wyoming

as principal, and United States Fidelity and Guaranty Company

of Baltimore, Maryland

AUTHORIZED TO DO BUSINESS WITHIN the State of Arizona.

as surety, are held and firmly bound unto the State of Arizona and the Oil and Gas Conservation Commission, hereinafter referred to as the "Commission", in the penal sum of Five Thousand and No/100 lawful money of the United States, for which payment, well and truly to be made, we bind ourselves, and each of us, and each of our heirs, executors, administrators or successors, and assigns jointly and severally, firmly by these presents.

The conditions of this obligation are that, whereas the above bounden principal proposes to drill a well or wells for oil, gas or stratigraphic purposes in and upon the following described land situated within the State, to-wit:

T. 13N, R. 18 E; Navajo County, Sec. 8 NE SE/4

(May be used as blanket bond or for single well)

NOW, THEREFORE, if the above bounden principal shall comply with all the provisions of the Laws of this State and the rules, regulations and orders of the Commission, especially with reference to the requirements of A.R.S. § 27-516, providing for the proper drilling, casing and plugging of said well or wells, and filing with the Oil and Gas Conservation Commission all notices and records required by said Commission, then in the event said well or wells do not produce oil or gas in commercial quantities, or cease to produce oil or gas in commercial quantities, this obligation is void; otherwise it shall remain in full force and effect.

Whenever the principal shall be, and declared by the Oil and Gas Conservation Commission in violation of the Laws of this State and the rules, regulations and orders of the Commission, the surety shall promptly:

1. Remedy the violation by its own efforts, or
2. Obtain a bid or bids for submission to the Commission to remedy the violation, and upon determination by the Commission and the Surety of the lowest responsible bidder, arrange for a contract between such bidder and the Commission, and make available as work progresses sufficient funds to pay the cost of remedying the violation; but not exceeding, including other costs and damages for which the surety may be liable hereunder, the amount set forth in the first paragraph hereof.

Liability under this bond may not be terminated without written permission of this Commission.

WITNESS our hands and seals, this 2nd day of December, 19 75

MORTON BROTHERS, INC.

Warren A. Morton Pres. Principal

WITNESS our hands and seals this 2nd day of December, 19 75

United States Fidelity and Guaranty Company

Walt Forbes Attorney-in-fact

W. W. Ridout
Surety, Resident Arizona Agent
If issued in a state other than Arizona)

(If the principal is a corporation, the bond should be executed by its duly authorized officers, with the seal of the corporation affixed. When principal or surety executes this bond by agent, power of attorney or other evidence of authority must accompany the bond.)

Approved Date 12-23-75
STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
By: W. W. Ridout

Permit No. 654

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Bond
RECEIVED
File Two Copies
Form No. 2
DEC 22 1975

O & G CONS. COMM.

(CERTIFIED COPY)

GENERAL POWER OF ATTORNEY

No. 78927

Know all Men by these Presents:

That UNITED STATES FIDELITY AND GUARANTY COMPANY, a corporation organized and existing under the laws of the State of Maryland, and having its principal office at the City of Baltimore, in the State of Maryland, does hereby constitute and appoint

Walt Forbes

of the City of **Casper**, State of **Wyoming**,
its true and lawful attorney in and for the State of **Wyoming**

for the following purposes, to wit:

To sign its name as surety to, and to execute, seal and acknowledge any and all bonds, and to respectively do and perform any and all acts and things set forth in the resolution of the Board of Directors of the said UNITED STATES FIDELITY AND GUARANTY COMPANY, a certified copy of which is hereto annexed and made a part of this Power of Attorney; and the said UNITED STATES FIDELITY AND GUARANTY COMPANY, through us, its Board of Directors, hereby ratifies and confirms all and whatsoever the said

Walt Forbes

may lawfully do in the premises by virtue of these presents.

In Witness Whereof, the said UNITED STATES FIDELITY AND GUARANTY COMPANY has caused this instrument to be sealed with its corporate seal, duly attested by the signatures of its Vice-President and Assistant Secretary, this 25th day of January, A. D. 1968

UNITED STATES FIDELITY AND GUARANTY COMPANY.

(Signed) By.....**John Hamilton**.....
Vice-President.

(SEAL) (Signed) **J. E. Dallam**.....
Assistant Secretary.

STATE OF MARYLAND, }
BALTIMORE CITY, }

On this 25th day of January, A. D. 1968, before me personally came **John Hamilton**, Vice-President of the UNITED STATES FIDELITY AND GUARANTY COMPANY and **J. E. Dallam**, Assistant Secretary of said Company, with both of whom I am personally acquainted, who being by me severally duly sworn, said that they resided in the City of Baltimore, Maryland; that they, the said **John Hamilton** and **J. E. Dallam** were respectively the Vice-President and the Assistant Secretary of the said UNITED STATES FIDELITY AND GUARANTY COMPANY, the corporation described in and which executed the foregoing Power of Attorney; that they each knew the seal of said corporation; that the seal affixed to said Power of Attorney was such corporate seal, that it was so fixed by order of the Board of Directors of said corporation, and that they signed their names thereto by like order as Vice-President and Assistant Secretary, respectively, of the Company. My commission expires the first day in July, A. D. 1969.

(SEAL) (Signed) **Herbert J. Aull**.....
Notary Public.

STATE OF MARYLAND }
BALTIMORE CITY, }

I, **James F. Carney**, Clerk of the Superior Court of Baltimore City, and **Herbert J. Aull**, Esquire, before whom the annexed affidavits were made, and who has thereto subscribed his name, was at the time of so doing a Notary Public of the State of Maryland, in and for the City of Baltimore, duly commissioned and sworn and authorized by law to administer oaths and take acknowledgments, or proof of deeds to be recorded therein. I further certify that I am acquainted with the handwriting of the said Notary, and verily believe the signature to be his genuine signature.

In Testimony Whereof, I hereto set my hand and affix the seal of the Superior Court of Baltimore City, the same being a Court of Record, this 25th day of January, A. D. 1968

(SEAL) (Signed) **James F. Carney**.....
Clerk of the Superior Court of Baltimore City.

RECEIVED
DEC 22 1975

COPY OF RESOLUTION

That Whereas, it is necessary for the effectual transaction of business that this Company appoint agents and attorneys with power and authority to act for it and in its name in States other than Maryland, and in the Territories of the United States and in the Provinces of the Dominion of Canada and in the Colony of Newfoundland.

Therefore, be it Resolved, that this Company do, and it hereby does, authorize and empower its President or either of its Vice-Presidents in conjunction with its Secretary or one of its Assistant Secretaries, under its corporate seal, to appoint any person or persons as attorney or attorneys-in-fact, or agent or agents of said Company, in its name and as its act, to execute and deliver any and all contracts guaranteeing the fidelity of persons holding positions of public or private trust, guaranteeing the performances of contracts other than insurance policies and executing or guaranteeing bonds and undertakings, required or permitted in all actions or proceedings, or by law allowed, and

Also, in its name and as its attorney or attorneys-in-fact, or agent or agents to execute and guarantee the conditions of any and all bonds, recognizances, obligations, stipulations, undertakings or anything in the nature of either of the same, which are or may by law, municipal or otherwise, or by any Statute of the United States or of any State or Territory of the United States or of the Provinces of the Dominion of Canada or of the Colony of Newfoundland, or by the rules, regulations, orders, customs, practice or discretion of any board, body, organization, office or officer, local, municipal or otherwise, be allowed, required or permitted to be executed, made, taken, given, tendered, accepted, filed or recorded for the security or protection of, by or for any person or persons, corporation, body, office, interest, municipality or other association or organization whatsoever, in any and all capacities whatsoever, conditioned for the doing or not doing of anything or any conditions which may be provided for in any such bond, recognizance, obligation, stipulation, or undertaking, or anything in the nature of either of the same.

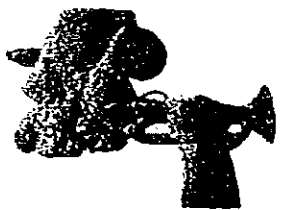
I, **W. J. D. Somerville, Jr.**, an Assistant Secretary of the UNITED STATES FIDELITY AND GUARANTY COMPANY, do hereby certify that the foregoing is a full, true and correct copy of the original power of attorney given by said Company to **Walt Forbes**

of **Casper, Wyoming**, authorizing and empowering **him** to sign bonds as therein set forth, which power of attorney has never been revoked and is still in full force and effect.

And I do further certify that said Power of Attorney was given in pursuance of a resolution adopted at a regular meeting of the Board of Directors of said Company, duly called and held at the office of the Company in the City of Baltimore, on the 11th day of July, 1910, at which meeting a quorum of the Board of Directors was present, and that the foregoing is a true and correct copy of said resolution, and the whole thereof as recorded in the minutes of said meeting.

In Testimony Whereof, I have hereunto set my hand and the seal of the UNITED STATES FIDELITY AND GUARANTY COMPANY on **December 2, 1975**
(Date)

W J D Somerville Jr
Assistant Secretary.



MINERALS MANAGEMENT INCORPORATED
A Division of SCIENTIFIC SOFTWARE CORPORATION

February 24, 1977

FEB 26 1977

O & G CONS. COMM.

Mr. J. N. Conley
Director, Geology Section
Oil and Gas Conservation Commission
State Of Arizona
8686 North Central, Suite 106
Phoenix, Arizona 85020

Dear Mr. Conley:

The samples furnished at Morton Brothers Inc., Federal Well No. 8-1 were those prepared by the mud-log unit. This was the only set of samples retained.

Due to the lost circulation experienced throughout the drilling of this hole, most samples were poor. Formation identification was primarily attained through log interpretation and correlation.

Mr. Pawel's address is shown below:

Mr. David T. Pawel
Rampart Resources Inc.
1022 Patterson Building
555 - 17th Street
Denver, Colorado 82020

Yours very truly,


W. E. Landry
Field Engineer

WEL/dd

cc: Morton Bros. Inc.

654

January 25, 1977

Minerals Management, Inc.
210 Petroleum Center Bldg.
501 Airport Drive
Farmington, New Mexico 87401

Attention: W. E. Landry/J. Arnold Snell

Gentlemen:

We have been advised by American Stratigraphic Company (AmStrat), Denver, that the set of samples of the Morton Brothers, Inc. #8-1 Federal, T13N, R18E, sec. 8, Coconino County, Arizona, furnished for a lithologic examination, are inadequate for positive identification of the Mississippian and Devonian rocks reported by the geologists (Pawel and Schulz). Mr. John Liming of AmStrat has inquired if we have a mud-log set of the samples.

We cannot determine whether the set of samples shipped to us on February 20, 1976, were those of Monaco Engineering, Inc., or a set sacked by the crew. The boxes have a notation that the samples are not time-logged.

We do not have addresses for the geologists. If you can do so, please advise us if our set of samples are those assembled by the mud-logging unit. If this information is not available, we would appreciate your sending us the addresses of David T. Pawel and Robert L. Schulz.

We will appreciate sincerely any assistance you can furnish.

Very truly yours,

JNC:os

J. N. Conley
Director, Geology Section

Monaco
1645 Court Place, #229
Denver, Colo - 80202

March 5, 1976

Ms. Kay Waller
Petro-Well Libraries, Inc.
150 Security Life Building
1616 Glenarm Place
Denver, CO 80202

RE: MARCH CURRENT FILE MATERIAL

Dear Ms. Waller:

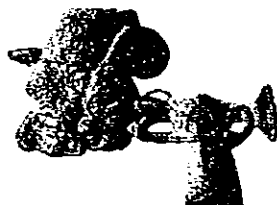
Enclosed you will find the following data and logs for our Permit #654,
Morton Brothers:

Pertinent Information
F-Log
Compensated Neutron Formation Density
Hydrocarbon Analysis Log
Strip Log
Dual Laterlog

Thank you.

Saralee Lorenzo (Ms)
Secretary

WA



MINERALS MANAGEMENT INCORPORATED
A Division of SCIENTIFIC SOFTWARE CORPORATION

February 20, 1976

Mr. W.E. Allen
Oil and Gas Conservation Commission
State of Arizona
Suite 106
8686 N. Central
Phoenix, Arizona 85020

Dear Mr. Allen:

This is to acknowledge your letter of February 17, 1976 regarding samples, tops and transfer of operation of the Morton Brothers, Inc., Federal 8 Well No. 1.

We are shipping the one set of samples today via U.P.S., as discussed, and an additional copy of the U.S.G.S. Form 9-330 is attached with the formation tops on the reverse side.

By copy of this letter to Mr. Merrill Richards, U.S.F.S. District Ranger, Pinedale District, Sitgreaves National Forest, we are sending additional copies of Form 26 you sent us.

Yours very truly,


W.E. Landry

WEL/vf
Attachments

cc: U.S.F.S.
Morton Brothers, Inc.

RECEIVED

FEB 23 1976

O & G CONS. COMM.

XXXXXXXXXXXX 8686 N. Central
XXXXX Suite 106, 85020

February 17, 1976

Mr. J. Arnold Snell
Minerals Management, Inc.
501 Airport Drive, Suite 105
Farmington, New Mexico 87401

RE: Morton Brothers Federal #8-1
Navajo County, Arizona
Permit #654

Dear Mr. Snell:

We have received the Completion Report, Application to Plug and Abandon, Plugging Report and Mr. Morton's Release of Water Well to the United States of America. We would appreciate very much if you could secure for our files a copy of our Form #26, Water Well Acceptance Form, signed by someone in authority with the Forest Service. Copies of this form are enclosed.

We also need the formation tops on this well. In a conversation with Mr. Morton following their decision to plug this well, Mr. Morton indicated that he had no further desire to maintain a confidential status for this well. Would you please confirm this.

Very truly yours,

W. E. Allen, Director
Enforcement Section

WEA/sl

Encls.

XXXXXXXXXXXXXXXXXXXX 8686 N. Central
XXXX Suite 106, 85020

January 30, 1976

Mr. Arnold Snell
Area Manager
Minerals Management, Inc.
501 Airport Drive, Suite 210
Farmington, New Mexico 87401

RE: Permit #654
Morton Brothers, Inc. Well #8
NE SE Sec 8, T13N, R19E
Navajo County

Dear Mr. Snell:

Attached are our Well Completion Forms, Application to Abandon
and Plug, Plugging Report and Water Well Acceptance Forms.

When you have completed and returned these forms to this office,
we will be able to close our files on this well. The Water Well
Acceptance Form is to be signed by someone in authority with
the Forest Service.

We will take this opportunity to express our appreciation for
your cooperation in the handling of this well and sincerely hope
that we will have the opportunity of working with you and your
people in the not too far distance future.

Very truly yours,

W. E. Allen, Director
Enforcement Section

WEA/sl

Encls.

NOTICE

For notices or advice on operations involving U. S. Government
oil and gas leases please contact the U. S. Geological Survey
at:

309 Federal Building
800 Truxtun Avenue
Bakersfield, CA 93301

Phone (805) 861-4186

For emergencies on weekends and holidays you may contact the
following:

D. F. Russell	(805) 871-4620
John P. Wagner	(805) 872-2240
Dave Rintoul	(805) 871-3787

RECEIVED
DEC 26 1975
U S G CONS. COMM.

654

Your proposed work is approved subject to the following requirements:

1. Compliance with Federal Oil and Gas Operating Regulations.
2. The date actual drilling is started shall be reported promptly to the District Engineer.
3. Any change in the approved program must receive prior approval of the District Engineer.
4. Install adequate blowout prevention equipment and maintain in good condition at all times. Rams should be tested occasionally by opening and closing and against pressure.
5. All pertinent data, including electrical logs, directional surveys, core descriptions and analyses, stratigraphic and faunal determinations, formation tests, and similar information shall be submitted in duplicate. Electrical logs and similar surveys and the results of formation tests should be submitted as soon as the records are available. Other data not previously submitted shall be included in or submitted with the log and history.
6. Notify the District Engineer in advance of formation or water shut-off tests.
7. Before the production string is cemented or the hole abandoned, the District Engineer shall be notified and allowed sufficient time to examine cores, electric logs or other records.
8. All rigs or wells shall be permanently marked in a conspicuous place with the name of the operator, the lease serial number and the number and location of the well. This marker to be maintained at all times.
9. Drilling equipment shall not be removed from any suspended drilling well without first securing the written consent of the District Engineer.
10. Two copies of the Lessee's Monthly Report of Operations (Form 9-329) must be forwarded not later than the sixth of the following month to:

Area Oil and Gas Supervisor
U. S. Geological Survey
Pacific Area
7744 Federal Building
300 North Los Angeles Street
Los Angeles, California 90012



MINERALS
MANAGEMENT INC.

TELEPHONE (505) 327-4441
501 AIRPORT DRIVE—PETROLEUM CENTER BUILDING
SUITE 210
FARMINGTON, NEW MEXICO 87401

March 14, 1975

DEVELOPMENT PLAN FOR SURFACE USE

MORTON BROTHERS, INC.

FEDERAL WELL 8-1

330 FEL, 1900 FSL, SECTION 8, T13N, R18E

NAVAJO COUNTY, ARIZONA

1. Existing Roads

Roads in the area will be utilized as shown on the attached topographic map. Approximately 1/4 mile of road will be re-routed around "Little Scott Tank" as requested by the Forest Service.

2. Planned Access Roads

Approximately 300 feet new road will be required. The road will be approximately 30 feet wide.

3. Location of Existing Wells

None in the immediate area.

4. Lateral Roads

Shown on the attached topographic map.

5. Location of Tank Batteries and Flow Lines

Will be located initially on the drill pad approximately 150 feet from well if production is encountered.

6. Water Supply

Water will be obtained and hauled from water wells already available in area. Will be purchased from water supplier.

7. Method of Handling Waste Disposal

Waste will be buried in the reserve pit on completion of the well. The reserve pit will be backfilled. Toilet facilities will be provided.

8. Location of Camp

No camp will be used.

9. Location of Airstrip

None.

10. Diagram of Well Location

See attached diagram.

11. Plans for Restoration of the Surface

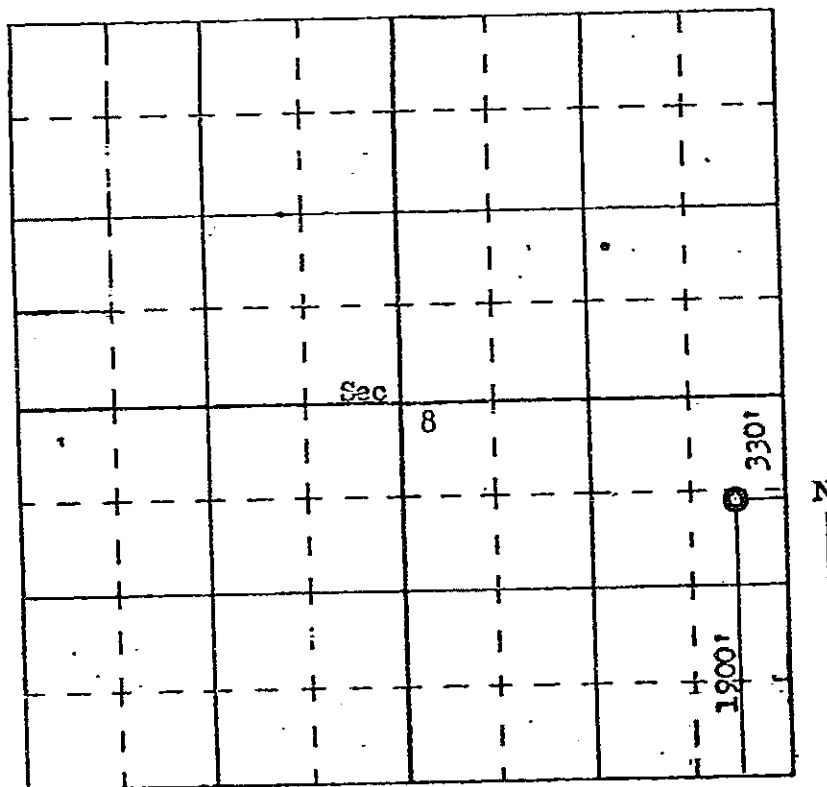
The surface will be restored to natural terrain and reseeded as directed by the Forest Service.

12. Impact on the Environment

The drillsite was selected so as to have minimal effect on the environment. No trees will be disturbed and the drillsite has been located in a sandy, sparsely vegetated area. Archeological clearance has been requested from the Museum of Northern Arizona and will be forwarded when received.

MAR 26 1975

COMPANY MORTON BROTHERS, INC.
LEASE FEDERAL WELL NO. 8-1
SEC. 8 T. 13N R. 18E CSRM
Navajo County, Arizona
LOCATION 1900' FSL 330' FEL
ELEVATION 6153 ungraded Ground



SCALE: 4 INCHES EQUALS 1 MILE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM
FIELD NOTE OF ACTUAL SURVEYS MADE BY ME UNDER MY SUPER-
VISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE
BEST OF MY KNOWLEDGE AND BELIEF.

Fred B. Kerr Jr.
Fred B. Kerr Jr.

SEAL:

Registered Land Surveyor.

#3950

Laughlin-Simmons & Co.

SURVEYED

March 13, 1975

FARMINGTON, N. M.



UNITED STATES
DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY
309 Federal Building
800 Truxtun Avenue
Bakersfield, California 93301

December 23, 1975

Morton Brothers, Inc.
220 C.B.C. Building
254 North Center Street
Casper, Wyoming 82601

RECEIVED
DEC 26 1975
O & G CONS. COMM.

Gentlemen:

Enclosed is an approved copy of Application to Drill well 8-1, lease A-7995, located 1900' from south line and 330' from east line section 8, T. 13 N., R. 18 E., G&SRM., Navajo County, Arizona. You notified us in your letter of December 10, 1975 that Minerals Management, Inc., of Farmington, New Mexico will supervise all operations on the well, therefore, we are sending them a copy of the approval to drill and of this letter.

Attached to the Application is a list of standard conditions of approval for a wildcat well and in addition, since this well is to be drilled on the Apache - Sitgreaves National Forest Land, you must comply with the following special stipulations:

1. All liquids and solids discharged from the well will be vented into storage tanks or fenced drip pits. The operator will provide that the locations and all equipment will be kept in satisfactory condition to prevent damage to livestock and wildlife.
2. A muffler or spark arrester satisfactory to the Forest Service shall be maintained on the exhausts of all trucks and tractors or other internal combustion engines used in connection with this permit.
3. A chemical toilet or similar adequate sanitary facilities will be provided on the location while men are regularly employed there. Untreated sewage will not be permitted to enter any stream course.

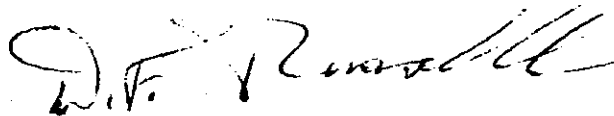
654

4. The prescribed seed mixture for revegetation of disturbed areas is:

Sand dropseed	1 lb. per acre
Pubescent wheat	6 lbs. per acre
Weeping lovegrass	1 lb. per acre
Ranger alfalfa	1 lb. per acre

On December 1, 1975 Mr. J. Arnold Snell signed a Surface Management Operating Plan with the Forest Service and we will expect all terms of that agreement to be observed.

Enclosed is a supply of Form 9-329 which is called "Lessee's Monthly Report of Operations." You may use this form if you wish but for this remote well we will require a weekly report and if you have a more convenient form or copies of the daily drilling report may be utilized. If you should have a test of oil or gas or a blow-out please contact us at one of the phone numbers on the attached list of engineers showing our office phone number and the home number for each engineer working in our Bakersfield office.



D. F. Russell

DFR:mf

cc: Minerals Management, Inc.
Oil & Gas Supervisor, L.A.
Menlo Park
Forest Service - Springerville

Environmental Analysis

I. Proposed Action

Morton Brothers, Inc. propose to drill a wildcat well located 1,900' from the south line and 330' from the east line of section 8, T. 13 N., R. 18 E., Navajo County, Arizona, on lease A-7995. This lease is located 12 miles northeast of Heber, Arizona, and is held by Morton Brothers, who have signified by letter of December 10, 1975 that Minerals Management, Inc. of Farmington, New Mexico, is to serve as supervising agent for drilling purposes on lease A-7995. Lessee has posted a \$10,000 bond executed December 2, 1975 with United States Fidelity and Guaranty Company as surety.

Lessee proposes to drill to a depth of 4,000' and after spudding in the Kaibab of Permian age will be testing for any possible stratigraphic traps in Coconino through the Permian formations including the Naco limestone, for a total 3,000'. Approximately 50' of Mississippian Redwall formation overlies anticipated 200' of Martin limestone of Devonian age and at 4,000' the drill should be in Pre-Cambrian. Ground elevation at well site is 6,153'. Although no wells have been drilled near the proposed well site, there have been several drilled to the north and especially along the N 60° W trending Holbrook anticline about ten miles north of the proposed well. Some oil shows have been reported in one or two of the fee-land wells but unfortunately none in the wells drilled on U. S. Government land, so our records are too meager to judge the reliability of these reports.

II. Location and Natural Setting

The well location is to be twelve miles northeast of Heber, Navajo County, Arizona, on a geographic feature known as the Mogollon Plateau, and about 15 miles north of the Mogollon Rim. In the immediate area of the proposed well, the terrain is practically flat with low, rolling hills about one-half mile away. The surface soil is rocky with a covering of thin, windblown sand. Plant life is limited to desert-grass land with some pinyon-juniper on the distant hills.

During the pre-drilling inspection on March 4, 1975, two drilling sites were inspected but the one in NE¼ SE¼ Sec. 8 was chosen as the initial well site. The surface is under jurisdiction of the U. S. Forest Service whose representatives were of very great aid during the inspection trip and have suggested a rerouting of the existing road in SW¼ section 9, thus avoiding going too close to the Little Scott watering tank.

No animal life was observed on the inspection trip of March 3, but some portions of the general area can be considered as wintering range for elk and mule deer. The proposed well site is in section 8 only 1½ miles from paved Highway 377. Chances of any large wildlife animals being in the area are probably rather slim.

Smaller animal life consists of rabbits, ground squirrels, mice, and the associated predators such as coyotes and bobcats. The Forest

Service Range. (the Heber office has assured (there will be a minimal impact (animal life since there are no endangered species in the area and since the Operator will comply with the usual USGS requirements for drilling a wildcat well and the special stipulations requested by the Springerville, Arizona, office of the Forest Service. The USGS will incorporate the requirements in the conditions of approval and, hence, there should be little, if any, negative impact on the surface caused by the drill site or access road.

The Operator, through its agent, Minerals Management, Inc., engaged the services of the Northern Arizona Society of Science and Art, Inc. to conduct an archeological study of the two proposed drill sites and access roads. An undated copy of the report was submitted to our office with a copy of a letter dated March 25, 1975 from the Coordinator of Archeological Research to Mr. Arnold Snell, Area Manager for Minerals Management, Inc. As noted in the Archeological Survey report, no artifacts were found and clearance of the area is recommended. The National Register of Historic Places was reviewed and absence of significant sites in the wildcat area was confirmed.

There are no streams in the vicinity of the well or for several miles in any direction and the infrequent periods of precipitation are not adequate to support more than desert grasses and sparse shrub bushes and junipers.

III. Effects on the Environment of the Proposed Action

Surface - The drill site for the initial well will require approximately 1 1/3 acres which includes a generous size reserve sump. The small amount of top soil to be bladed while leveling the site will be stock-piled and, if the well proves to be non-productive, the top soil will be spread over the site and the area reseeded with a grass mixture specified by the Forest Supervisor and agreed to on December 1, 1975 by Arnold Snell of Mineral Management. An existing dirt road will be utilized with very little upgrading until such time as the area should prove to be productive, at which time the Forest Service would require the road be reworked to conform to specifications for an all-weather road. A modification has been requested to build a 200-foot-long by 75-foot-wide access detour to avoid the close proximity to the Little Scott tank and a second new road construction of 300-foot length will be necessary to lead south from the existing dirt road to the drill site. Neither road will entail moving much dirt and, upon completion of exploratory drilling if results are negative, the road will be in nearly the same condition as at present and utilized for forestry and ranching purposes. If production of oil and gas should be obtained, treating and storage facilities could be located in practically any direction from the well with no major environmental problems.

All waste materials will be buried in a reserve pit and such pit back-filled upon completion of drilling.

Although archeological clearance has been given as result of an investigation conducted March 13, 1975 by the Museum of Northern Arizona, the

Forest Service (Minerals Management have agreed) that if, during construction, items of substantial archeological or paleontological value are discovered or a known deposit of such items disturbed, the Operator will cease work in the affected area and notify the Forest Supervisor.

With the limited amount of moisture in form of rain or snow that might fall and the sandy soil, the chances of erosion occurring are very slim. The Forest Service has requested that proper drainage and other precaution be taken to minimize erosion or damage to the surface.

There is the possibility of some dust and exhaust fumes causing minor air pollution, but this would be of short duration and, as there are no human habitations for many miles in any direction, there would be no adverse impact.

Subsurface - The drilling procedures and equipment are described in the Application for Permit to Drill and attached papers thereto. It should be noted there will be a mud tank of 482 barrels capacity and a reserve pit which could be used in an emergency in conjunction with the regular EMSCO D-500 and auxiliary EMSCO D-300 mud pumps. Although there are no previously drilled wells in this area, there have been a few wells drilled in Navajo County that encountered water at a depth of 250'. In the proposed well, 100 feet of 13 3/8" conductor will be cemented to surface and, after drilling to 1,000 feet, the 8 5/8" casing will be run, with cement circulated to the surface. This should be more than adequate depth to protect any upper fresh water zones.

For protection against unforeseen pressures in deeper portions of the hole, a ten-inch Shaffer series 900 blowout preventer will be installed when drilling below 1,000 feet.

IV. Alternatives to the Proposed Action

The Location of Drilling Site - The drill site as now proposed is an alternative to the primary location initially proposed to Forest Service personnel. Although neither location would have any great impact on the environment, the site settled on in the NE 1/4 SE 1/4 section 8 will entail less travel on the unimproved road and will be at a greater distance from the sinkhole in the SW 1/4 section 8 which might cause some concern as to the ground stability. The proposed site would seem to be the best choice and will cause no permanent damage to the environment and, upon restoration of the surface at completion of drilling, there will be very little noticeable change from the pre-drilling appearance.

V. Beneficial Effects

There will be a small financial benefit to the towns of Heber and Snowflake, Arizona, as the drilling crew will probably find a lodging and eating base in one of these communities. Personnel for site and road construction will probably be obtained at one of these towns. If production should be obtained, an entirely new economic base would be drawn to the area as the oil or gas field developed.

VI. Public Interest

Other than mild curiosity and some expressions of wishful thinking that a discovery be made, there has been very little interest in this proposed drilling.

VII. Determination

The requested action does not constitute a major Federal action significantly affecting the environment in the sense of NEPA, section 102 (2) (C).

District Engineer

I concur with the above
determination

(Orig. Sgd.) H. I. CYPHER

Acting Oil and Gas Supervisor

VI. Public Interes

Other than mild curiosity and some expressions of wishful thinking that a discovery be made, there has been very little interest in this proposed drilling.

VII. Determination

The requested action does not constitute a major Federal action significantly affecting the environment in the sense of NEPA, section 102 (2) (C).


District Engineer

I concur with the above
determination

Acting Oil and Gas Supervisor

3-4-75

A-7995



CHRONOLOGIC LOG

MORTON BROTHERS, INC. Well 8-1 Lease A 7995

- 2/24/75 Arnold Snell Area Manager for Minerals Management, Farmington, New Mexico phoned re: proposal to drill Morton Bros. on their lease A-7995, Navajo County Arizona. Sec 8, T 13 N, R 18 E.
- 2/28/75 Called Snell to arrange joint inspection trip. Meet at 9:00 am on 3/4/75 at Ranger Station in Snowflake, Ariz.. Told Snell a \$10,000 lessee's bond must be filed with BLM. He had obtained Form 9-331C from USGS in Farmington.
- 3/4/75 John Wagner met with Merrill Richards, Dist. Ranger, James McCoy, Heber Dist Ranger, Tom Chacon Rangelands Manager, and Arnold Snell.
- 3/25/75 Called Snell to find out when bond would be posted. He said he'd advise Morton Bros. to file bond. Also, said archaeological study was made 3/13/75. Snell mailed APD forms 3/14/75.
- 3/28/75 Received copy of letter dated 3/25/75 addressed to Snell and accompanying archaeological report from Museum of Northern Ariz..
- 3/31/75 Received APD and information on 12 points from Minerals Mgm't..
- 5/12/75 Received letter from Minerals Management with some geologic information re: to well 8-1 and expected tops.
- 8/5/75 Arliegh Holmes, Forest Supervisor, Apache-Sitgreaves Nat. Forest called to say Operating Plan and agreement with Minerals Mgm't. was being drawn up and would be submitted soon.
- 9/15/75 Received letter dated 9/10/75 from Forest Supervisor outlining 4 stipulations he would like attached to approval, also listed grass seeds he would like used in reseeding after abandonment.
- 12/1/75 Snell called to inquire status of APD. Told him we had not yet been notified of bond being filed and we had no information on drilling rig specifications.
- 12/ 8/75 Received letter from Forest Supervisor with copy of Surface Management Plan which was agreed to by Snell on 12/1/75.
- 12/12/75 Received cpy of Drilling Rig Inventory, Rig #1, Coleman Drilling Co.
- 12/11/75 Received memorandum from Phoenix office BLM advising that a \$10,000 lessee's bond had been filed by Morton Bros. to cover operations on lease A-7995. U. S. Fidelity and Guaranty Co. as surety.
- 12/15/75 Received letter from Warren A. Morton authorizing Minerals Management of Farmington, N. M. to supervise drilling operations and submit all forms necessary in name of Morton Bros., Inc.
- 12/16/75 Snell called to inquire about approval of APD.
- 12/ 18/75 Took copies APD with Env. Analysis to USGS in Los Angeles.

2820
September 10, 1975

Highway 100
A-1995

Following completion of the Environmental Analysis Report and discussions with your office and Arnold Snell of Minerals Management, Inc., we submit the following four stipulations for inclusion in your operating plans:

- | | |
|-------------------|-----------------|
| Sand dropseed | 1 lb. per acre |
| Pubescent wheat | 6 lbs. per acre |
| Weeping lovegrass | 1 lb. per acre |
| Ranger alfalfa | 1 lb. per acre |

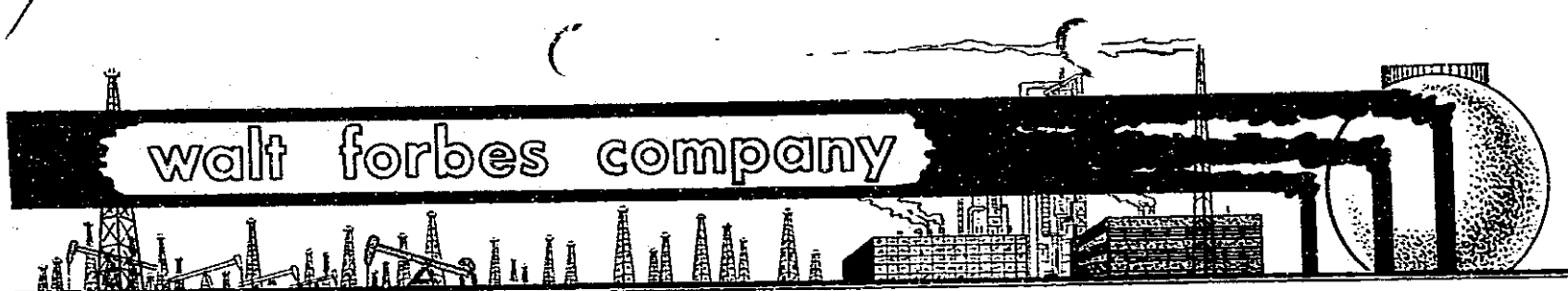
O & G CONS. COMM.

2.

We will furnish you a copy of our operating plan with Minerals Management, Inc. as soon as it has been executed. We do not have any record of designation of operator from Morton Brothers, Inc. to Minerals Management, Inc; if you have this information, please provide us with a copy. Do not hesitate to call on us if you have any questions or we can be of assistance.

Sincerely,

for J. L. Kimball
JAMES L. KIMBALL
Forest Supervisor



December 16, 1975

Oil and Gas Conservation Commission
8686 North Central, Suite 106
Phoenix, Arizona 85020

Attention: W. E. Allen, Director
Enforcement Section

RE: Arizona # 7995
Morton Brothers, Inc.

Dear Mr. Allen:

We are returning the original of the above bond to your office.
The description on the bond has been corrected according to your
letter of December 10 to Mr. Warren A. Morton. The correction
has been initialed by Mr. Morton and Mr. Forbes.

I trust this will suffice.

Very truly yours,

Shirley
Walt Forbes Company

slm
Enclosure

cc: Mr. Warren A. Morton

RECEIVED

DEC 22 1975

O & G CONS. COMM.

Operator MORTON BROTHERS, INC., c/o MINERALS MANAGEMENT, INC.

Bond Company	<u>USF & G</u>	Amount	<u>5,000</u>
--------------	--------------------	--------	--------------

Bond No. AR12 - 1995 Date Approved _____

Permits covered by this bond:

654

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS

Bond Serial No. Ariz. - 7005

That we: MORTON BROTHERS, INC.

of the County of Natrona in the State of Wyoming

as principal, and United States Fidelity and Guaranty Company

of Baltimore, Maryland

AUTHORIZED TO DO BUSINESS WITHIN the State of Arizona.

as surety, are held and firmly bound unto the State of Arizona and the Oil and Gas Conservation Commission, hereinafter referred to as the "Commission", in the penal sum of Five Thousand and No/100 lawful money of the United States, for which payment, well and truly to be made, we bind ourselves, and each of us, and each of our heirs, executors, administrators or successors, and assigns jointly and severally, firmly by these presents.

The conditions of this obligation are that, whereas the above bounden principal proposes to drill a well or wells for oil, gas or stratigraphic purposes in and upon the following described land situated within the State, to-wit:

T. 15N, R. 18E: Navajo County, Sec. 8 NE SE/4

(May be used as blanket bond or for single well)

NOW, THEREFORE, if the above bounden principal shall comply with all the provisions of the Laws of this State and the rules, regulations and orders of the Commission, especially with reference to the requirements of A.R.S. §27-516, providing for the proper drilling, casing and plugging of said well or wells, and filing with the Oil and Gas Conservation Commission all notices and records required by said Commission, then in the event said well or wells do not produce oil or gas in commercial quantities, or cease to produce oil or gas in commercial quantities, this obligation is void; otherwise it shall remain in full force and effect.

Whenever the principal shall be, and declared by the Oil and Gas Conservation Commission in violation of the Laws of this State and the rules, regulations and orders of the Commission, the surety shall promptly:

1. Remedy the violation by its own efforts, or
2. Obtain a bid or bids for submission to the Commission to remedy the violation, and upon determination by the Commission and the Surety of the lowest responsible bidder, arrange for a contract between such bidder and the Commission, and make available as work progresses sufficient funds to pay the cost of remedying the violation; but not exceeding, including other costs and damages for which the surety may be liable hereunder, the amount set forth in the first paragraph hereof.

Liability under this bond may not be terminated without written permission of this Commission.

WITNESS our hands and seals, this 2nd day of December, 19 75

MORTON BROTHERS, INC.

Warren A. Morton Pres. Principal

WITNESS our hands and seals this 2nd day of December, 19 75

United States Fidelity and Guaranty Company

Walt Forbes

Surety Walt Forbes Attorney-in-fact

Walt Forbes

Surety, Resident Arizona Agent
If issued in a state other than Arizona)

(If the principal is a corporation, the bond should be executed by its duly authorized officers, with the seal of the corporation affixed. When principal or surety executes this bond by agent, power of attorney or other evidence of authority must accompany the bond.)

Approved
Date 12-23-75

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION

By Walt Forbes

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION

Bond
File Two Copies
RECEIVED

Form No. 2

DEC 23 1975

Form No. 2

(CERTIFIED COPY)

GENERAL POWER OF ATTORNEY

No. 78927

Know all Men by these Presents:

That UNITED STATES FIDELITY AND GUARANTY COMPANY, a corporation organized and existing under the laws of the State of Maryland, and having its principal office at the City of Baltimore, in the State of Maryland, does hereby constitute and appoint

Walt Forbes

of the City of Casper, State of Wyoming,
its true and lawful attorney in and for the State of Wyoming

for the following purposes, to wit:

To sign its name as surety to, and to execute, seal and acknowledge any and all bonds, and to respectively do and perform any and all acts and things set forth in the resolution of the Board of Directors of the said UNITED STATES FIDELITY AND GUARANTY COMPANY, a certified copy of which is hereto annexed and made a part of this Power of Attorney; and the said UNITED STATES FIDELITY AND GUARANTY COMPANY, through us, its Board of Directors, hereby ratifies and confirms all and whatsoever the said

Walt Forbes

may lawfully do in the premises by virtue of these presents.

In Witness Whereof, the said UNITED STATES FIDELITY AND GUARANTY COMPANY has caused this instrument to be sealed with its corporate seal, duly attested by the signatures of its Vice-President and Assistant Secretary, this 25th day of January, A. D. 1968

UNITED STATES FIDELITY AND GUARANTY COMPANY.

(Signed) By John Hamilton, Vice-President.

(SEAL) (Signed) J. E. Dallam, Assistant Secretary.

STATE OF MARYLAND,
BALTIMORE CITY, } ss:

On this 25th day of January, A. D. 1968, before me personally came John Hamilton, Vice-President of the UNITED STATES FIDELITY AND GUARANTY COMPANY and J. E. Dallam, Assistant Secretary of said Company, with both of whom I am personally acquainted, who being by me severally duly sworn, said that they resided in the City of Baltimore, Maryland; that they, the said John Hamilton and J. E. Dallam were respectively the Vice-President and the Assistant Secretary of the said UNITED STATES FIDELITY AND GUARANTY COMPANY, the corporation described in and which executed the foregoing Power of Attorney; that they each knew the seal of said corporation; that the seal affixed to said Power of Attorney was such corporate seal, that it was so fixed by order of the Board of Directors of said corporation, and that they signed their names thereto by like order as Vice-President and Assistant Secretary, respectively, of the Company. My commission expires the first day in July, A. D. 1969.

(SEAL) (Signed) Herbert J. Aull, Notary Public.

STATE OF MARYLAND
BALTIMORE CITY, } Sc.

I, James F. Carney, Clerk of the Superior Court of Baltimore City, which Court is a Court of Record, and has a seal, do hereby certify that Herbert J. Aull, Esquire, before whom the annexed affidavits were made, and who has thereto subscribed his name, was at the time of so doing a Notary Public of the State of Maryland, in and for the City of Baltimore, duly commissioned and sworn and authorized by law to administer oaths and take acknowledgments, or proof of deeds to be recorded therein. I further certify that I am acquainted with the handwriting of the said Notary, and verily believe the signature to be his genuine signature.

In Testimony Whereof, I hereto set my hand and affix the seal of the Superior Court of Baltimore City, the same being a Court of Record, this 25th day of January, A. D. 1968

(SEAL) (Signed) James F. Carney

RECEIVED
DEC 22 1975

CLERK OF COURT

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
Apache-Sitgreaves National Forests
P. O. Box 640
Springerville, Arizona 85938

A-7995
2800

December 5, 1975



RECEIVED

DEC 11 1975

O & G CONS. COMM.

Mr. Don Russell
District Engineer, U.S. Geological Survey
309 Federal Building
800 Thruxton Ave.
Bakersfield, California 93301

Dear Mr. Russell:

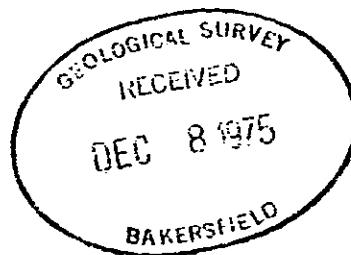
Enclosed is a copy of the approved operating plan for the Federal 8-1 well on the Apache-Sitgreaves National Forests. Please provide us a copy of your approved operating plan, bond, and notice to Minerals Management to begin operations.

Do feel free to call on us if we can be of assistance to you during the drilling of this well.

for *Wm B Edwards*
JAMES L. KIMBALL
Forest Supervisor

Enclosure

*Copy of
Permit # 654
and application
mailed to Mr. Russell
12-12-75*



RECEIVED

DEC 11 1975

O & G CONS. COMM.

6200-11 (1/69)

654

Surface Management Operating Plan
Minerals Management Inc.

On February 1, 1975, Morton Brothers Inc. of 254 North Center Street, Casper Wyoming, acquired BLM lease A-7995 covering all or portions of Sections 8 and 10, T13N, R18S G&SRBM within the Apache-Sitgreaves National Forests. Minerals Management Inc. of Suite 1810, 1660 Lincoln, Denver, Colorado, acting as agent for Morton Brothers Inc. enters into this operating plan for the use and protection of surface resources within and adjacent to the lease area.

The following stipulations are primarily for the temporary exploration of the area. The improvement of the access road to an all weather status and construction of other improvements associated with oil and gas production will be handled at such time as the lease area is produced.

1. This plan is subject to all valid claims.
2. The operator, in exercising the privileges granted by this plan, shall comply with the regulations of the Department of Agriculture and all Federal, State, County, and municipal laws, ordinances, or regulations which are applicable to the area or operations covered by this permit.
3. The operator shall take all reasonable precautions to prevent and suppress forest fires. No material shall be disposed of by burning in open fires during the closed season established by law or regulations without a written permit from the forest officer in charge or his authorized agent.
4. The operator shall exercise diligence in protecting from damage the land and property of the United States covered by and used in connection with this permit, and shall pay the United States for any damage resulting from negligence or from the violation of the terms of this permit or of any law or regulation applicable to the National Forests by the permittee, or by any agents or employees of the permittee acting within the scope of their agency or employment.
5. No Member of or Delegate to Congress or Resident Commissioner shall be admitted to any share of part of this agreement or to any benefit that may arise herefrom unless it is made with a corporation for its general benefit.
6. Upon abandonment, termination, revocation, or cancellations of this plan, the operator shall remove within a reasonable time all structures and improvements except those owned by the United States, and shall restore the site, unless otherwise agreed upon in writing or in this plan. If the operator fails to remove all such structures or improvements within a reasonable period, they shall become the property of the United States, but that will not relieve the operator of liability for the cost of their removal and restoration of the site.

7. This plan is not transferable. If the operator through voluntary sale or transfer, or through enforcement of contract, foreclosure, tax sale, or other valid legal proceeding shall cease to be the owner of the physical improvements other than those owned by the United States situated on the land described in this plan and is unable to furnish adequate proof of ability to redeem or otherwise reestablish title to said improvements, this plan shall be subject to cancellation. But if the person to whom title to said improvements shall have been transferred in either manner provided it qualified as an operator, and is willing that his future occupancy of the premises shall be subject to such new conditions and stipulations as existing or prospective circumstances may warrant, his continued occupancy of the premises may be authorized by plan to him if, in the opinion of the issuing officer or his successor, issuance of a plan is desirable and in the public interest.

8. In case of change of address, the operator shall immediately notify the Forest Supervisor.

9. The temporary use and occupancy of the premises and improvements herein described may be sublet by the operator to third parties only with the prior written approval of the Forest Supervisor but the operator shall continue to be responsible for compliance with all conditions of this plan by persons to whom such premises may be sublet.

10. This permit may be terminated upon breach of any of the conditions herein at the discretion of the Regional Forester.

11. Chemical materials may not be used to control undesirable woody and herbaceous vegetation, insects, rodents, etc., without the prior written approval of the Forest Service. A report of planned use of pesticides will be submitted annually by the permittee on the due date established by the Forest Supervisor. The report will cover a 12 month period of planned use beginning 3 months after the reporting date. Information essential for review will be provided in the form specified. Exceptions to this schedule may be allowed only when unexpected outbreaks of pests require control measures which were not anticipated at the time the annual report was submitted.

12. This permit shall have not force or effect until the permittee has signified his acceptance of its provisions and conditions by signing the original and all carbon copies and returning the copies to the Forest Supervisor.

13. A muffler or spark arrester satisfactory to the Forest Service shall be maintained on the exhausts of all trucks and tractors or other internal combustion engines used in connection with this permit.

The operator will make arrangements to have all equipment inspected for compliance with fire requirements prior to entry onto the National Forest. In addition to an adequate muffler or spark arrester all vehicles or equipment will have a shovel. All heavy equipment and vehicles except sedans and pickups will also be equipped with a fire extinguisher.

14. The operator shall save the United States harmless from and indemnified against claims for injury to persons or damages to property, due to development, operation or use under this permit.

15. The operator shall take all practicable precautions to minimize damage to the soil, and to prevent the creation of conditions conducive to continuing or accelerated soil erosion. The precautions may include but shall not necessarily be limited to, bank sloping, benching, wattling, sod planting, seeding, fertilizing, and mulching as determined by the Forest Service to be practicable and necessary. All earth cuts or fill slopes on any disturbed areas which are favorable to revegetation or other areas on which the soil and/or ground cover is destroyed in the course of construction, will be revegetated with suitable vegetation or otherwise treated by the operator as required by the Forest Supervisor. Such seeding or planting shall be done at a time of the year, in a manner, and with the kinds and amounts of species which in the opinion of the Forest Supervisor offers the best chance of success.

16. If, during construction, items of a substantial archeological or paleontological value are discovered, or a known deposit of such items is disturbed, the operator will cease work in the area so affected. He will then notify the Forest Supervisor and will not resume work until written approval is given.

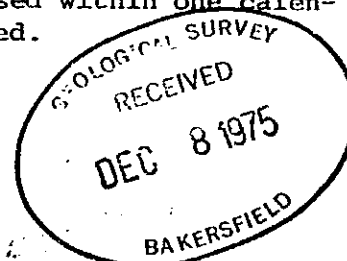
17. This plan authorized only such use and occupancy of National Forest land as is essential for purposes directly connected with the construction, maintenance, and use of the road. It does not authorize uses such as borrow pits, stockpiles, quarries or any other similar use except with the written approval of the Forest Supervisor.

18. All roads will be constructed in accordance with the specifications shown in exhibit #1. Cuts in earth will not be steeper than 2:1, cuts in rock will not be steeper than 1/4:1. Fill material will not be steeper than 2:1. All roads will be ditched and crowned with adequate wing ditches and culverts for proper ditch relief.

19. Gates, cattleguards, culverts and other structures installed as part of these roads shall become the property of the United States and may not be removed without the consent of the Forest Supervisor. The Forest Service or its cooperator, (with Forest Service consent) may improve this road in any manner so long as it does not materially interfere with its use by the operator. Specifications for construction of these improvements shown in exhibit 3.

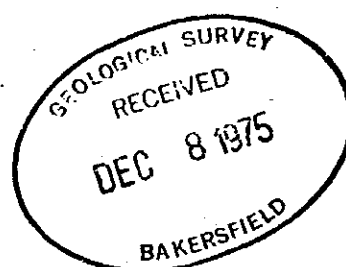
20. None of the conditions of the permit as set forth herein can be varied or modified, except with the written consent of the Forest Supervisor.

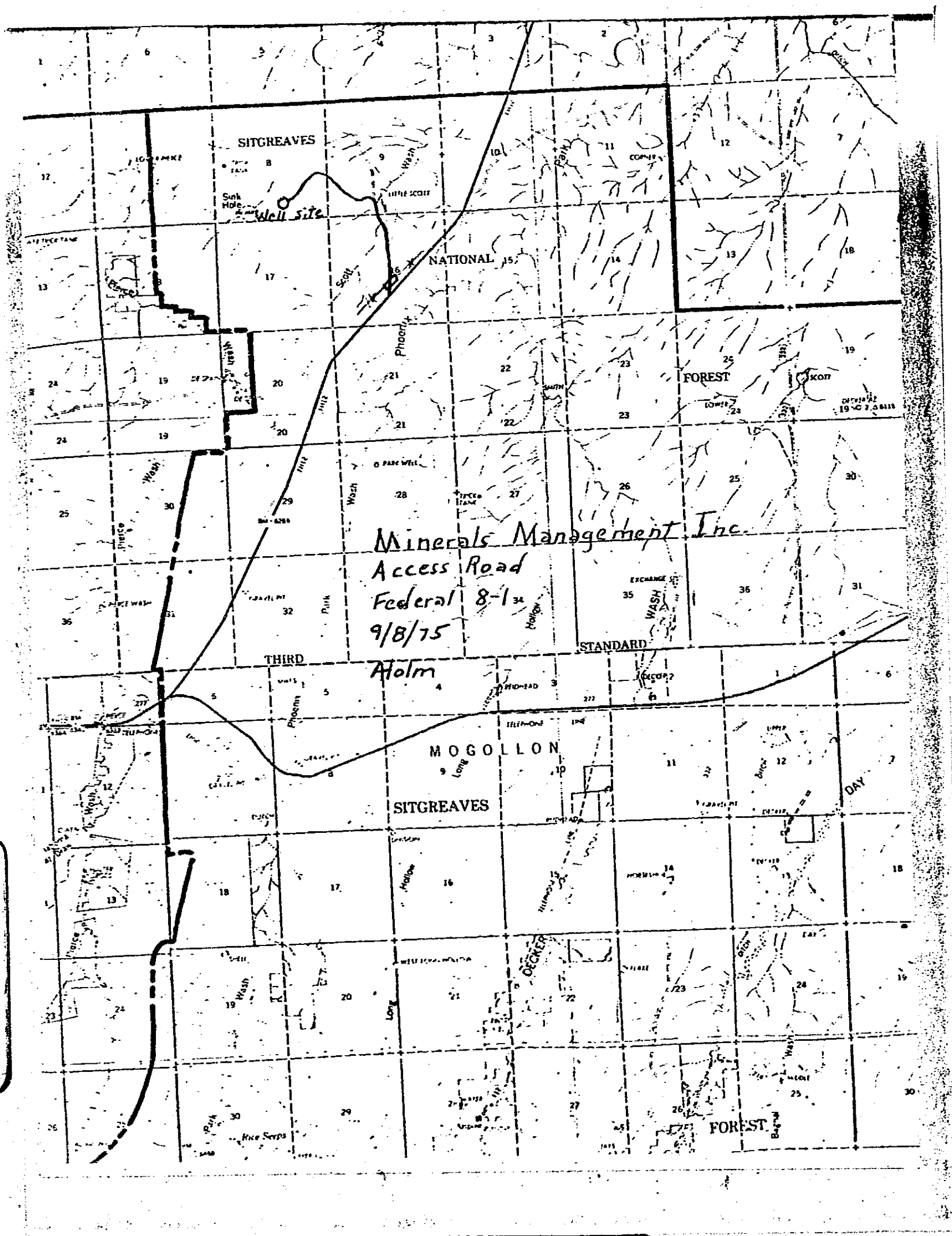
21. If the use granted under this plan is not exercised within one calendar year from date of issue the plan will be terminated.



22. The prescribed seed mixture for revegetation of disturbed areas is shown in exhibit 2.

<i>J. Arnold Hall</i>	<i>12/1/75</i>	<i>Wm G Edwards</i>	<i>12/5/75</i>
Minerals Management Inc.	Date	for	Apache-Sitgreaves National Forests





U.S. FOREST SERVICE — REGION 3 MINIMUM STANDARDS FOR SINGLE LANE FAIR WEATHER ROAD

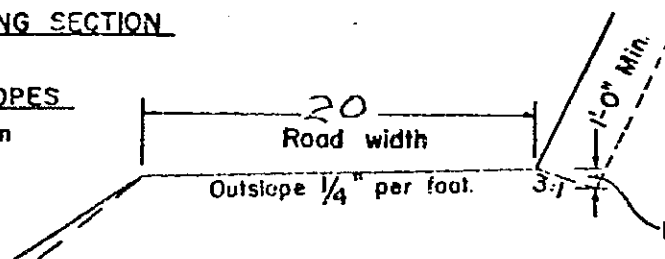
DESIGN CRITERIA

Grade — Maximum of 8% unless approved in writing by the Forest Service.
Alignment — Minimum radius 50 ft.

TYPICAL GRADING SECTION

FILL SLOPES

1 1/2:1 Common
1 1/2:1 Rock

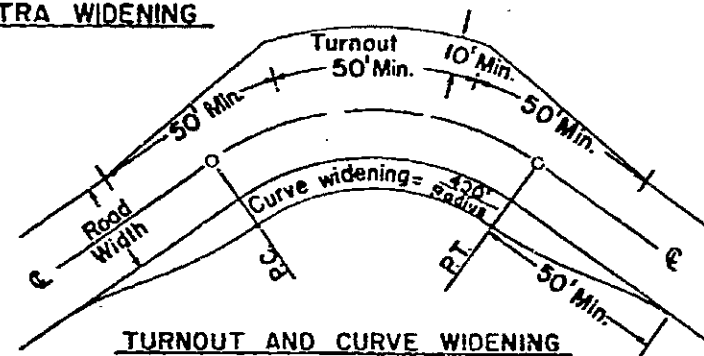


CUT SLOPES

1:1 — Common, 0–55% Side Slopes.
3/4:1 — Common, over 55% Side Slopes.
1/2:1 — Hardpan — Soft rock.
1/4:1 — Solid rock.
Ditch only where required for adequate drainage.

Side cast on contour grade line permitted except where topography is so broken that designed end haul is necessary to obtain reasonable minimum alignment standard.

EXTRA WIDENING



TURNOUT AND CURVE WIDENING

WIDENING ON FILL

Height of fill at Shoulder	Widen each Shoulder
0'–6' (1 1/2:1 Fill Slopes)	1'–0"
Over 6' (1 1/2:1 Fill Slopes)	2'–0"

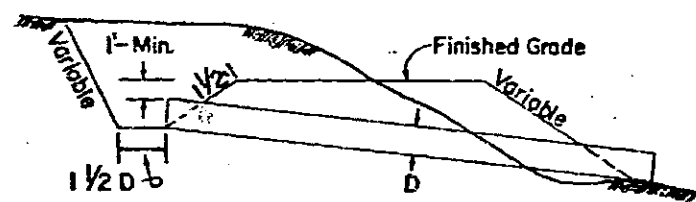
TURNOUT SPACING

Turnouts to be located on blind curves and supplemented between blind curves as necessary to keep spacing less than 1,000 ft.

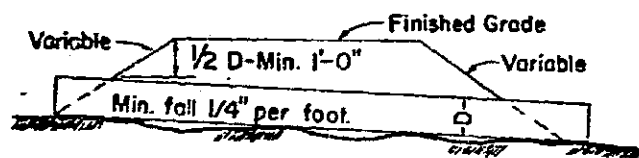
SURFACING

Spot surface with selected material where needed.

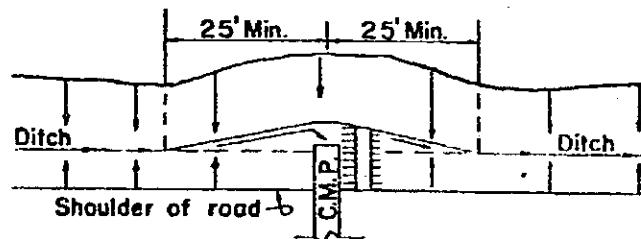
CULVERTS



SIDEHILL INSTALLATION



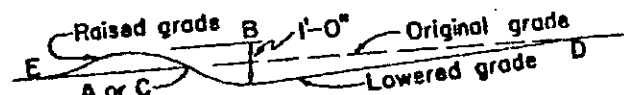
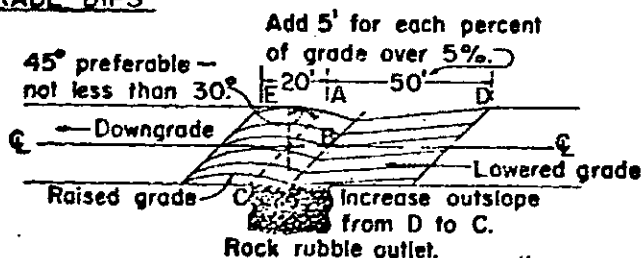
THROUGH FILL



SIDEHILL INSTALLATION

All culverts must discharge at natural ground level unless slope under pipe is protected by rock fill.
Gradient of culverts on Sidehill Installation not less than approaching ditch gradient.

GRADE DIPS



Grade Dips may be used in lieu of culverts ordinarily used for ditch relief.
For spacing of Grade Dips and Ditch Relief Culverts see F.S.M. 5613.54.

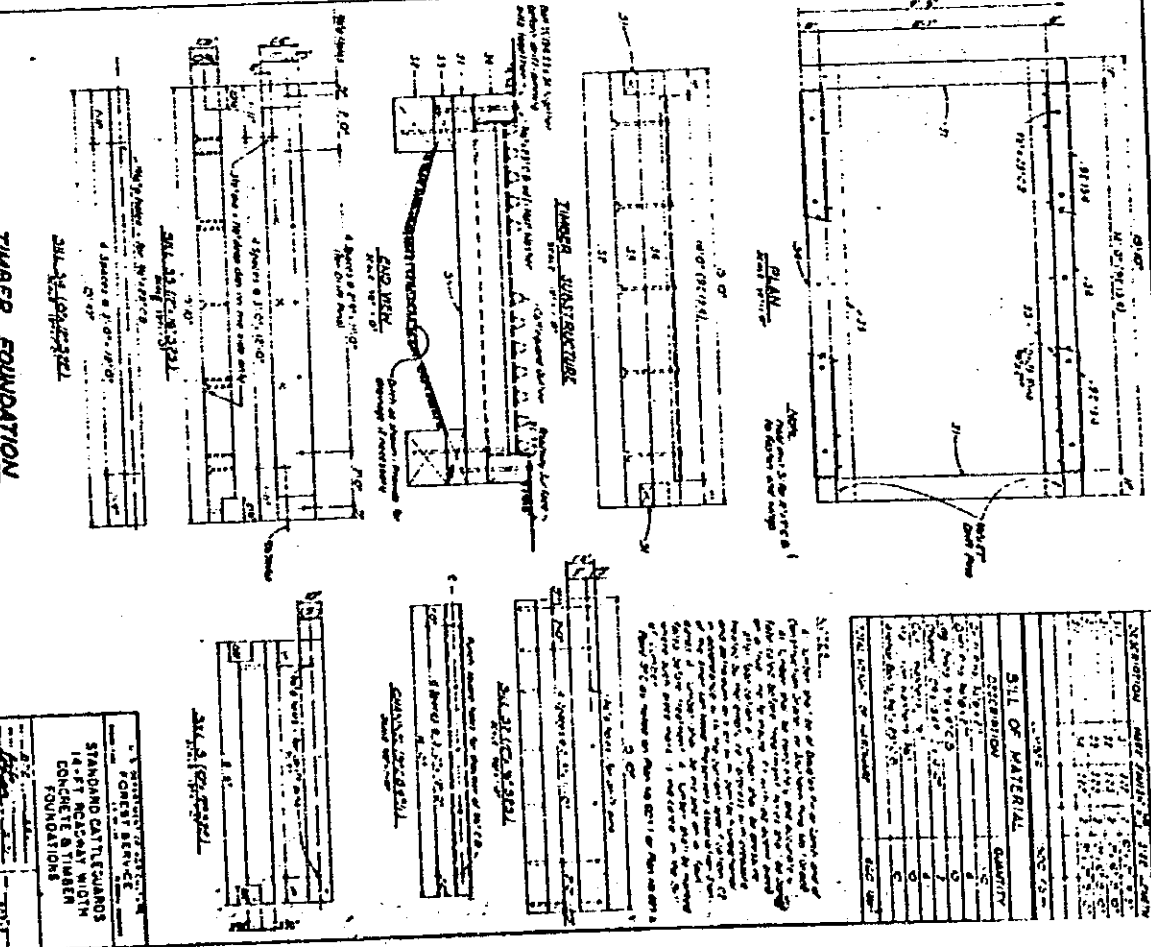
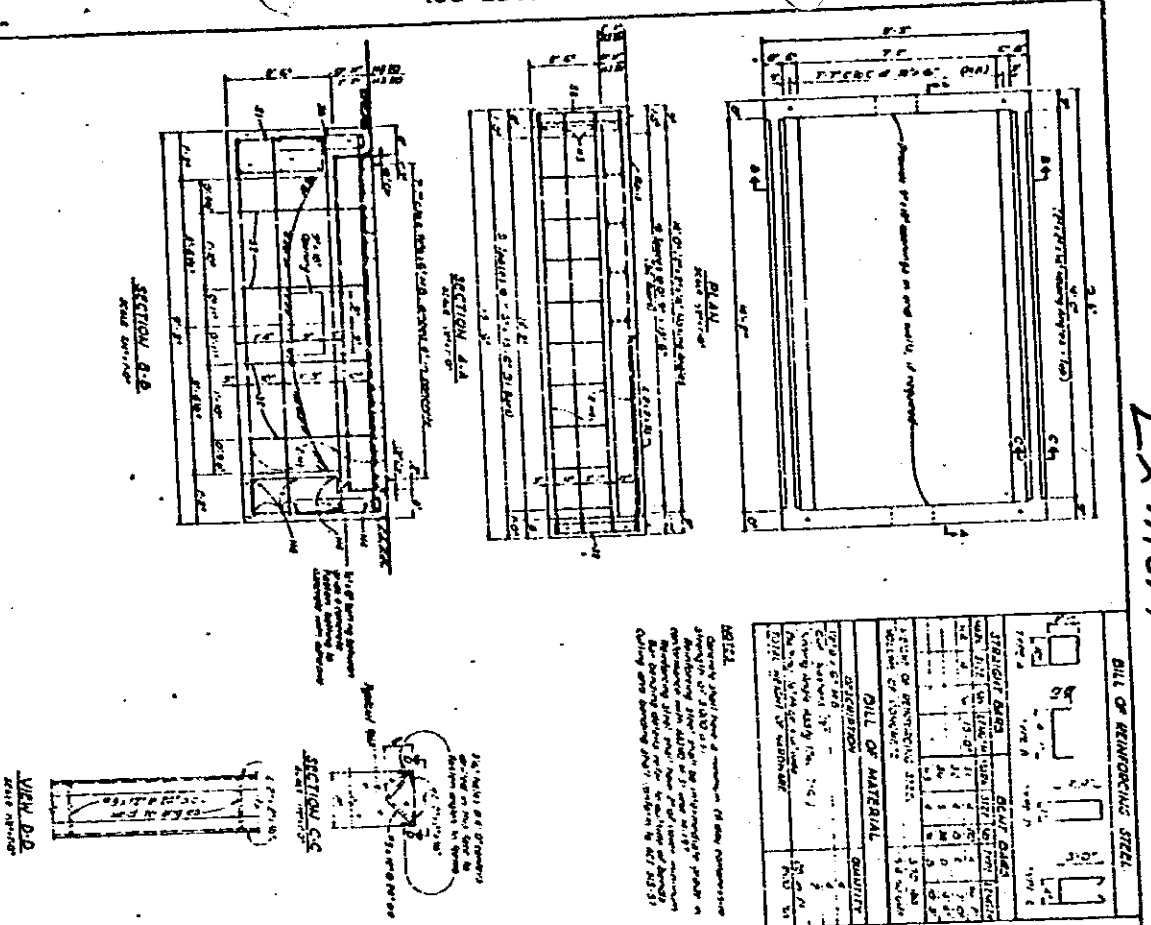
Exhibit #2
Prescribed Seed Mixture

Sand dropseed	1 lb. per acre
Pubescent wheatgrass	6 lbs. per acre
Weeping lovegrass	1 lb. per acre
Ranger alfalfa	1 lb. per acre

Exhibit #3

CONCRETE FOUNDATION

Sample: Needs to be adjusted to proper width road



XXXXXXXXXXXXXXXXX 8686 N. Central
XXXX Suite 106, 85020

December 10, 1975

Mr. Arnold Snell
Area Manager
Minerals Management, Inc.
501 Airport Drive, Suite 210
Farmington, New Mexico 87401

RE: Permit #654
Morton Brothers, Inc. Well #8
NE SE Sec 8, T13N, R18E
Navajo County

Dear Mr. Snell:

We have today issued a permit for the above referenced well.

Enclosed please find your permit, receipt for the \$25.00 filing fee and approved copy of your application to drill. Also enclosed is the necessary forms to keep us advised of your progress on this well.

If we can be of further assistance, please advise.

Very truly yours,

W. E. Allen, Director
Enforcement Section

WEA/sl

Encls.

XXXXXXXXXXXXXXXXXXXX 8686 N. Central, Suite 106
XXXX Phx., AZ 85020

December 10, 1975

Mr. Warren A. Morton
Morton Brothers, Inc.
220 C.B.C. Building
254 North Center Street
Casper, Wyoming 82601

RE: U. S. Fidelity & Guarantee Company
Bond # 7995

Dear Mr. Morton:

We are returning the original copy of the above referenced bond for correction. This bond covers only the particular well location for which the bond was issued. The description on the bond should read - the NE SE/4 Sec 8, T13N, R18E, Navajo County.

The permit for this well has been issued and is being forwarded to your agent in Farmington.

If we can be of any further assistance, please advise.

Very truly yours,

W. E. Allen, Director
Enforcement Section

WEA/s1

Encl.



Telegram

PFA261(1659)(2-042843E343)PD 12/09/75 1659

ICS IPMRNCZ CSP

3072346926 TDRN CASPER WY 81 12-09 0459P EST

PMS ARIZONA OIL AND GAS CONSERVATION COMMISSION, DLR

8686 NORTH CENTRAL SUITE 106

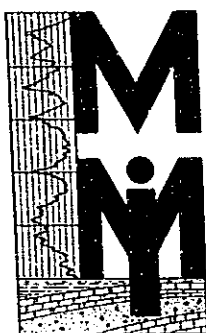
PHOENIX AZ 85020

ATTN BILL ALLEN EFFECTIVE DECEMBER 2 1975 OUR AGENCY ISSUED A \$5000
PERFORMANCE BOND ON BEHALF OF MORTON BROTHERS INC THROUGH THE UNITED
STATES FIDELITY AND GUARANTEE COMPANY COVERING WELL LOCATED 1900
FEET FROM THE SOUTH LINE 330 FEET FROM THE EAST LINE OF SECTION 8
TOWNSHIP 13 NORTH RANGE 18 WEST NAVAJO COUNTY ARIZONA BOND IS IN THE
PROCESS OF BEING SIGNED BY A RESIDENT AGENT AND WILL BE FILED WITH
YOUR OFFICE AS SOON AS THIS IS ACCOMPLISHED

WALT FORBES ATTY IN FACT

NNNN

[illegible]



**MINERALS
MANAGEMENT INC.**

TELEPHONE (505) 327-4441
501 AIRPORT DRIVE—PETROLEUM CENTER BUILDING
SUITE 210
FARMINGTON, NEW MEXICO 87401

March 14, 1975

Mr. Bill Allen
Arizona Oil and Gas Conservation Commission
4515 N. 7th Avenue
Phoenix, Arizona 85013

Dear Mr. Allen:

Attached are copies of Application for Permit to Drill a wildcat well for Morton Brothers Inc. in Navajo County, Arizona. The filing fee in the amount of \$25.00 is also attached. I have requested Mr. Warren Morton in Casper, Wyoming to file the Bond and organization report directly with your office. I have also enclosed a copy of the USGS forms for your information. The forms were filed today.

We appreciate the help you have given us on the well and if you have any questions please contact me.

Yours very truly,

J. Arnold Snell
Area Manager

JAS/vf

Xerox copies: MMI-Denver

654

RECEIVED

MAR 19 1975

O & G CONS. COMM.

xxxxxxxxxxxxx 8686 N. Central
xxxxSuite 106, 85020

December 10, 1975

Mrs. Jo Ratcliff
Four Corners Sample Cut Association
P. O. Box 899
Farmington, New Mexico 87401

Dear Mrs. Ratcliffe:

The following permit was issued today:

Morton Brothers, Inc., c/o Minerals Management, Inc.
NE SE Sec 8, T13N, R18E
Navajo County
Permit #654

Very truly yours,

Saralee Lorenzo
Secretary

sl

654

MORTON BROTHERS, INC.

220 C.B.C. BUILDING
254 NORTH CENTER ST.
CASPER, WYOMING 82601

December 3, 1975

State of Arizona
Oil & Gas Conservation Commission
8686 North Central, Suite 106
Phoenix, Arizona 85020

Gentlemen:

My records indicate that we have previously filed with you an Application To Drill a well to be known as Morton Brothers, Inc. #8-1 Federal to be located in Section 8, T.13N., R.18E., in Navajo County, Arizona. A \$25.00 filing fee was also furnished to you at that time by our Agent, Minerals Management. In further compliance with your requirements for the drilling of this proposed test, I enclose our Organization Report. I have also made arrangements to have a \$5,000.00 Bond posted in our name. This Bond is being countersigned by the Arizona Agent for the Bonding Company and will be forwarded directly to your office.

We are anxious to commence operations for the drilling of this well during the month of December. If there is any further papers required from us, will you please give us a collect telephone call.

Sincerely yours,

MORTON BROTHERS, INC.

Warren Morton

Warren A. Morton

WAM:eb/Enc.

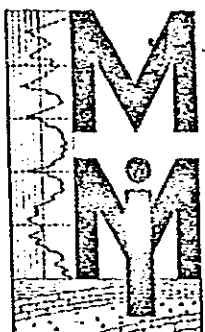
cc: Mr. J. Arnold Snell
Minerals Management, Inc.
501 Airport Drive-Petroleum Center Bldg.
Suite 210
Farmington, New Mexico 87401

RECEIVED

DEC 5 1975

O & G CONS. COMM.

654



MINERALS
MANAGEMENT INC.

TELEPHONE (505) 327-4441
501 AIRPORT DRIVE—PETROLEUM CENTER BUILDING
SUITE 210
FARMINGTON, NEW MEXICO 87401

March 14, 1975

Mr. Don Russell
District Engineer
U. S. Geological Survey
309 Federal Bldg.
800 Truxton Avenue
Bakersfield, California 93301

Dear Mr. Russell:

Attached are copies of Application for Permit to Drill a wildcat well for Morton Brothers Inc. in Navajo County, Arizona. The archeologist visited the location on March 13, 1975 and will submit his findings sometime next week. We certainly appreciate the help and cooperation shown by your staff on this well and we hope the application meets with your approval. If you have any questions, please contact me.

Yours very truly

J. Arnold Snell

J. Arnold Snell
Area Manager

Attachments

Xerox copy : Mr. Merrill Richards

654

RECEIVED

MAR 19 1975

O & G CONS. COMM.



MINERALS
MANAGEMENT INC.

TELEPHONE (505) 327-4441
501 AIRPORT DRIVE—PETROLEUM CENTER BUILDING
SUITE 210
FARMINGTON, NEW MEXICO 87401

March 14, 1975

DEVELOPMENT PLAN FOR SURFACE USE

MORTON BROTHERS, INC.

FEDERAL WELL 8-1

330 FEL, 1900 FSL, SECTION 8, T13N, R18E

NAVAJO COUNTY, ARIZONA

1. Existing Roads

Roads in the area will be utilized as shown on the attached topographic map. Approximately 1/4 mile of road will be re-routed around "Little Scott Tank" as requested by the Forest Service.

2. Planned Access Roads

Approximately 300 feet new road will be required. The road will be approximately 30 feet wide.

3. Location of Existing Wells

None in the immediate area.

4. Lateral Roads

Shown on the attached topographic map.

5. Location of Tank Batteries and Flow Lines

Will be located initially on the drill pad approximately 150 feet from well if production is encountered.

RECEIVED

6. Water Supply

Water will be obtained and hauled from water wells already available in area. Will be purchased from water supplier.

MAR 17 1975

O & S CONS. COMM.

7. Method of Handling Waste Disposal

Waste will be buried in the reserve pit on completion of the well. The reserve pit will be backfilled. Toilet facilities will be provided.

8. Location of Camp

No camp will be used.

9. Location of Airstrip

None.

10. Diagram of Well Location

See attached diagram.

11. Plans for Restoration of the Surface

The surface will be restored to natural terrain and reseeded as directed by the Forest Service.

12. Impact on the Environment

The drillsite was selected so as to have minimal effect on the environment. No trees will be disturbed and the drillsite has been located in a sandy, sparsely vegetated area. Archeological clearance has been requested from the Museum of Northern Arizona and will be forwarded when received.

654

RECEIVED

MAR 18 1975

O & G CONS. COMM.